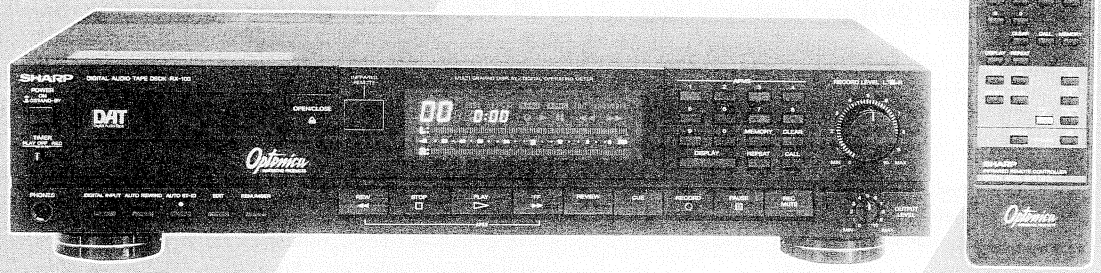
SHARP

DIGITAL AUDIO TAPE DECK
DIGITALES AUDIO CASSETTENDECK
PLATINE CASSETTE DIGITALE
PLATINA DE CINTA DE AUDIO DIGITAL
DIGITAL AUDIO TAPE DECK
PIASTRA DI REGISTRZIONE DIGITALE (DAT)

RX-100H/RX-100E



ENGLISH
DEUTSCH
FRANÇAIS
ESPAÑOL
SVENSKA
ITALIANO

Digital Audio Tape

Optonica
INNOVATIVE PRODUCTS

OPERATION MANUAL
BEDIENUNGSANLEITUNG
MODE D'EMPLOI
MANUAL DE MANEJO
BRUKSANVISNING
MANUALE DI ISTRUZIONI

TINSZ1011AFZZ

SPECIAL NOTES
BESONDERE ANMERKUNGEN
REMARQUES SPÉCIALES

NOTAS ESPECIALES
SÄRSKILDA ANTECKNINGAR
NOTE PARTICOLARI

NOTE FOR USERS IN UK

IMPORTANT:
The wires in this mains lead are coloured in accordance with the following code:
BLUE: "NEUTRAL"
BROWN: "LIVE"
CONNECTING PLUG TO MAINS LEAD:
As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plugs, proceed as follows:
- The wire which is coloured BLUE must be connected to the terminal which is marked with the letter N or coloured BLACK.
- The wire which is coloured BROWN must be connected to the terminal which is marked with the letter L or coloured RED.

This apparatus must be protected by a 3A fuse in the mains plug or distribution board.

Warning:
Always remove mains plug from wall socket when not in use, or before any service operation. Never remove covers unless qualified to do so; this unit contains dangerous voltages.

Warnung:
Bei Nichtverwendung des Gerätes oder vor Ausführung vor irgendwelchen Kundendienstarbeiten stets den Netzkabelstecker aus der Netzsteckdose ziehen. Niemals Abdeckungen entfernen, außer wenn Sie dafür qualifiziert sind; in diesem Gerät sind gefährliche Spannungen vorhanden.

Avertissement:
Débrancher l'appareil en cas de non-utilisation ou de réparation. Ne pas ôter le couvercle à moins d'être qualifié pour cela; l'appareil renferme des organes portés à haute tension.

Advertencia:
Desenchufe siempre la clavija de la red del tomacorriente de la pared, cuando no se use el aparato o antes de realizar cualquier servicio de mantenimiento. No quite nunca las tapas del aparato a menos que se esté cualificado para hacerlo. Este aparato tiene en su interior tensiones peligrosas.

Varning:
Koppla alltid apparaten från nätet när den inte används eller vid servicearbeten. Endast kvalificerad personal får öppna apparatens hölje; denna apparat innehåller farliga spänningar!

Avvertenza:
Prima di procedere a qualsiasi intervento di controllo o manutenzione, scollegare sempre la spina dalla presa di rete. Non smontare mai i coperchi, a meno di essere qualificati per farlo. All'interno di questo apparecchio scorre una tensione pericolosa

This apparatus complies with requirements of BS 800 and EEC directive 82/499/EEC.

Dieses Gerät stimmt mit den Bedingungen der EG-Richtlinien 82/499/EWG überein.

Cet appareil répond aux spécifications de la directive CCE 82/499/CCE.

Este aparato cumple las especificaciones de la directriz de la CEE 82/499/CEE.

Questo apparecchio è stato prodotto in conformità alle direttive CEE 82/499/CEE.

Dit apparaat voldoet aan de vereiste EEG-reglementen 82/499/EEG.

Apparatet opfylder kravene i EF direktivet 82/499/EF.

Note for users in UK:
Recording and playback of any material may require consent, which SHARP is unable to give. Please refer particularly to the provisions of the Copyright Act 1956, the Dramatic and Musical Performers Protection Act 1958, the Performers Protection Acts 1963 and 1972 and to any subsequent statutory enactments and orders.

For other counties:
Note:
Audio-visual material may consist of copyrighted works which must not be recorded without the authority of the owner of the copyright. Please refer to relevant law in your country.

Anmerkung:
Audio-visuelles Material kann Urheberrechte umfassen, die ohne Genehmigung des Eigentümers dieser Urheberrechte nicht aufgenommen werden dürfen. Siehe die entsprechenden nationalen Gesetze.

Note:
Le matériel audio-visuel peut comporter des oeuvres faisant l'objet de droits d'auteur qui ne peuvent être enregistrées sans l'autorisation du possesseur du droit d'auteur, veuillez vous référer aux réglementations nationales en vigueur.

Nota:
El material audiovisual puede consistir en trabajos que tengan derechos de autor y que no deben grabarse sin la autorización del poseedor de dichos derechos de autor. Sírvase consultar las leyes aplicables en su país.

Observera:
Audiovisuellt material kan innehålla upphovsrättsarbete som inte skall mångfaldigas utan tillstånd av copyrightinnehavaren. Se den tillämpliga lagen i ditt land

Nota:
Il materiale audio-visivo che fosse soggetto a copyright non può essere registrato senza l'autorizzazione del possessore del copyright. Si prega di attenersi alle leggi in vigore sul territorio nazionale.

In order to protect this product from damage during transportation, repack it as illustrated on the flap of the packing case.

Um Beschädigung beim Transport zu verhindern, verpackt man das Gerät wie auf der Lasche des Kartons dargestellt.

Afin d'éviter d'endommager ce produit pendant le transport, le remettre dans son emballage de la façon indiquée sur le rabat du boîtier d'emballage.

Para evitar que este producto resulte dañado durante el transporte, está empaquetado de la forma ilustrada en la tapa de la caja.

För att skydda produkten för skador under dess transport skall du återpacka den i packlådan enligt illustrationen på packlådans flik.

Per evitare che questo prodotto subisca dei danni durante il trasporto, imballarlo nel modo illustrato sul coperchio dell'imballaggio stesso.

Coaxial leads, headphones and soft cloth mentioned in the Operation manual are not included.

Koaxialkabel, Kopfhörer und weiches Tuch, die in der Bedienungsanleitung erwähnt sind, sind nicht Bestandteil der Lieferung.

Fil coaxial, casque et chiffon doux, ils sont mentionnés dans ce mode d'emploi mais ne sont pas compris.

No se incluyen los cables coaxiales, auriculares,y paño suave mencionados en el manual de manejo.

Koaxialkablar, hörtelefoner och mjuk duk som nämns i denna bruksanvisning medföljer inte apparaten vid köpet.

I cavi coassiali, la cuffia e il panno morbido menzionati nel manuale di istruzioni non sono forniti con l'apparecchio.

Note for users in UK:
When the POWER switch is set at ⏻/STAND-BY position, the unit is on stand-by, which means that mains voltage is still present inside the unit.

For other countries:
When the POWER switch is set at ⏻/STAND-BY position, the unit is on stand-by, which means that mains voltage is still present inside the unit. Accordingly, be sure to pull the mains plug out of the wall outlet before making any internal examination or repairs.

Bei Einstellung des POWER-Schalters auf " ⏻/STAND-BY " wird das Gerät auf Betriebsbereitschaft eingestellt, was bedeutet, daß die Netzspannung immer noch im Gerät vorhanden ist. Daher unbedingt den Netzkabelstecker aus der Netzsteckdose ziehen, bevor das Geräteinnere überprüft oder repariert wird.

Quand l'interrupteur POWER est réglé à la position " ⏻/STAND-BY ", l'appareil est en position d'attente, ce qui signifie que l'appareil est toujours sous tension. Par conséquent, ne pas omettre de tirer de la prise murale la fiche de secteur avant de procéder à des inspections de l'intérieur de l'appareil ou à des réparations.

Cuando el interruptor POWER está puesto en la posición " ⏻/STAND-BY ", el aparato se encuentra en estado de espera, lo que significa que todavía hay tensión de alimentación dentro del aparato. En consecuencia, asegurarse de desenchufar la clavija del cable de alimentación del tomacorriente de la pared antes de hacer cualquier inspección o reparación dentro del aparato.

När POWER-omkopplaren är i läge "⏻/STAND-BY", är apparaten i beredskapsläge, dvs. nätspänningen finns i apparaten. Se till att alltid dra ut stickproppen från nätkontakten före servicearbeten eller rengöring.

BEMÆRK:
I stilling ⏻/STAND-BY er apparatet stadig forbundet med lysnettet. Hvis det ønskes fuldstændig afbrudt skal netledningen trækkes ud.

Quando l'interruttore POWER si trova in posizione ⏻/STAND-BY , l'apparecchio è in condizione di attesa, il che significa che esso è sempre ancora sotto tensione. Di conseguenza, prima di procedere a qualsiasi esame delle parti interne o a riparazioni, è necessario disinserire il cavo di alimentazione dalla presa di rete.

The last letter of the model name on the catalogue, packing case, etc. indicates the colour of the product. Operations and specifications are the same for all units regardless of the colour.

Der letzte Buchstabe des Modellnamens auf dem Katalog, Verpackungskarton usw. zeigt die Farbe des Produktes an. Die Bedienungsschritte und die technischen Daten sind ohne Rücksicht auf die Farbe für alle Geräte gleich.

La dernière lettre du nom du modèle sur le catalogue, le boîtier d'emballage, etc., indique la couleur du produit. Les opérations et les caractéristiques sont les mêmes pour tous les appareils, sans considération de la couleur.

La última letra del nombre del modelo en el catálogo, caja de embalaje, etc., indica el color del producto. El funcionamiento y las especificaciones son idénticos para todos los aparatos, independientemente del color.

Den sista bokstaven i modellkoden på katalogen, packlådan osv. anger apparatens färg. Manövrering och tekniska data är desamma för alla apparater, oavsett färgen.

L'ultima lettera del nome del modello sul catalogo, imballaggio, ecc., indica il colore del prodotto. Il funzionamento e le caratteristiche del diversi modelli sono sempre uguali, indpendentemente dalle differenze di colore.

ENGLISH

INTRODUCTION

Thank you for purchasing this SHARP Product. We hope it will give you many years of trouble-free enjoyment. But for the best performance, read this Manual carefully. It will guide you in operating your SHARP product.

CONTENTS

	Page
FEATURES	1
● Functions	1
● Performance	1
PRECAUTIONS	2
● Dew condensation	2
● Cleaning the digital audio tape deck	2
NAME OF CONTROLS	3-5
PREPARATION FOR USE	6-10
● Remote controller	6
● Loading batteries for the remote controller	6
● Connections	7-8
● Digital audio tapes	9-10
LOADING AND UNLOADING THE CASSETTE	11
● Loading the cassette	11
● Unloading the cassette	11
PLAYBACK	12-16
● Normal playback	12
● APSS (Auto Program Search System)	13
● APMS (Automatic Programmable Music Selector)	14
● Direct selection	15
● Repeat playback	15
● To check the elapsed time during playback	16
● Cue and review	16
RECORDING	17-21
● Introduction to DAT recording	17
● Recording a programme with its programme number	17-18
● Recording a programme whilst manually recording the programme number	19
● Erasing an unnecessary programme number	20
● Recording programme numbers	20
● Recording a programme on a previously recorded tape	21
● Erasing a programme	21
TIMER PLAYBACK AND RECORDING	22
● Timer playback	22
● Timer recording	22
TROUBLESHOOTING CHART	23
MAINTENANCE	24
SPECIFICATIONS	24

FEATURES

■ Functions

Quick programme selection at 200 times the playback speed

Select programmes by fast forwarding or rewinding at approx. 200(max) times the playback speed with Auto Program Search System (APSS), Automatic Programmable Music Selector (APMS) playback and direct selection playback.

Automatic Programmable Music Selector (APMS) and repeat functions

APMS memorizes up to 30 programmes for playback. The memorized tracks can be repeated using the repeat function.

Automatic programme number recording

A programme number can be automatically recorded at the beginning of a programme. After recording the programme numbers for each programme, they are used for APMS playback and direct selection playback.

After-recording function

Easily adds or erases a programme number after recording.

Renumber function

Automatically renumbers the programme numbers if they do not match the programmes.

Auto rewind function

Automatically rewinds the tape when the end is reached.

■ Performance

Hi-Fi digital circuits

- Employ a 16-bit 4 times over-sampling digital filter for wide dynamic range.
- The left channel and right channel analog-to-digital circuits are independent. Similary, the digital-to-analog circuits are also independent.

Highly stable mechanism

- Four direct-drive motors are used for excellent performance and stability.
- A light, precision aluminum die-casting chassis is used for stable tape transport.

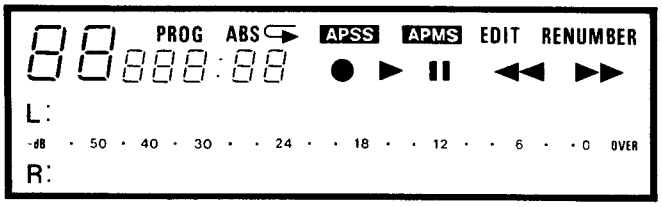
Hi-Fi analog circuits

- Independent analog circuits are employed for the left and right channels.
- The audio section incorporates a DC amplifier with excellent linearity. Furthermore, electrolytic capacitors exhibiting wide bandwidth are employed for superb sound quality.

■ Dew condensation

Dew is the moisture that collects on a cold object in a warm room (like the water drops on a cold glass of water). Dew can also form on the drum and head inside the tape deck causing damage to tapes and head.
The tape deck contains a dew prevention heater. Once the tape deck is connected to an AC outlet, the heater turns on to prevent dew from forming. It takes from 1 to 2 hours to remove dew.

When dew is detected on the drum and head, the display shown below appears and the tape deck does not operate. Wait about 1 to 2 hours after the display returns to normal before using the tape deck.



Dew forms easily:

- In highly humid and steamy rooms.
- When carrying the tape deck from a cold place to a warm room.
- When a heated room is suddenly cooled.

Notes:
1. Use the tape deck at room temperatures from 5° to 35°C. Dew forms especially easily in cold temperature regions.
2. Dew may form on the tape when it is carried from a cold place to a warm room. Wait until the dew disappears before using the tape. (1 to 2 hours in a warm room)

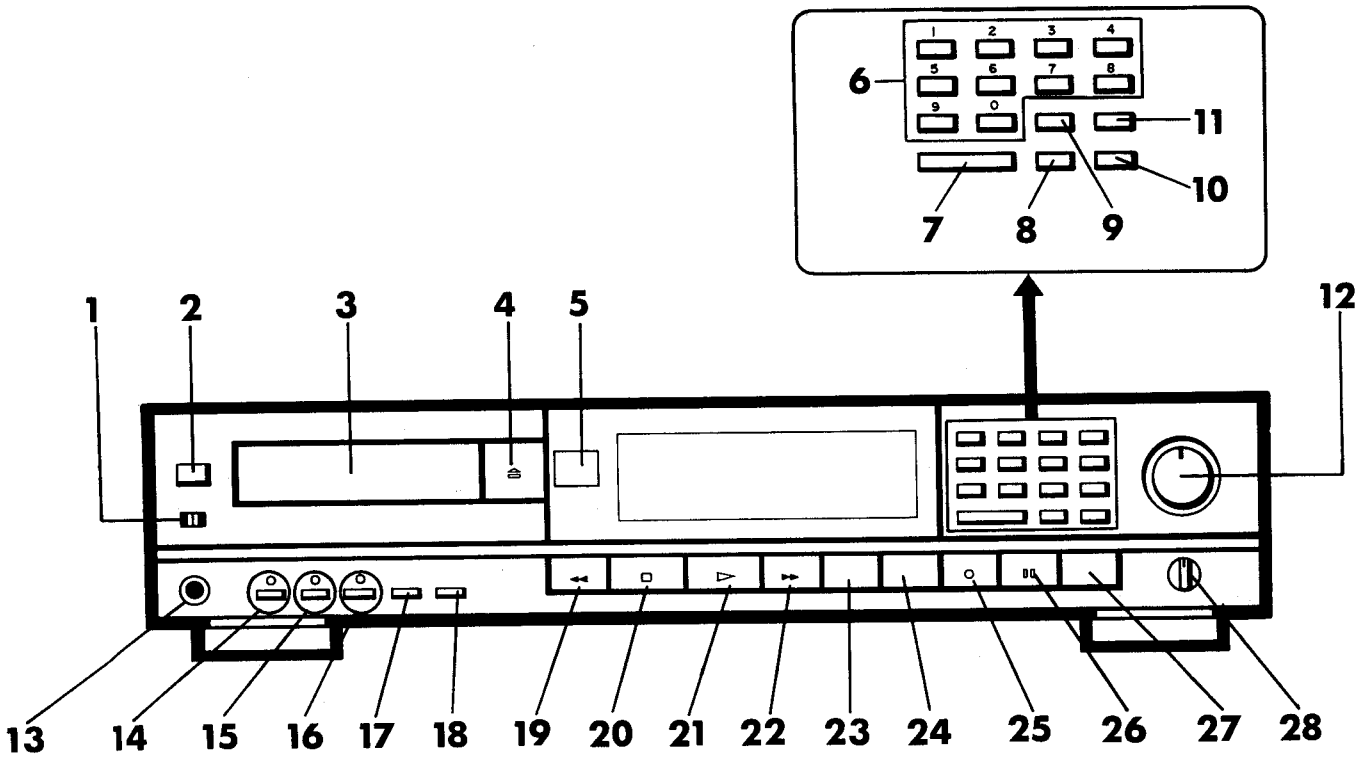
■ Cleaning the digital audio tape deck

When the head is slightly dirty, noise is heard or dropouts occur during playback. If the head becomes excessively dirty during playback, the entire display flashes and the audio output cannot be heard. If this occurs, use a commercially available digital audio cleaning tape or have your Sharp service centre clean the head.
After prolonged use, the head will require replacement due to wear. Consult your Sharp service centre.

- Before using this unit for the first time, wait 1 to 2 hours after plugging the AC supply lead into the wall outlet.
- Use with the wrong power supply could result in damage to the unit. There are no user-serviceable parts inside the cabinet.
- Use on a firm, level surface insulated from vibration. Excessive vibration may cause sound distortion or damage to the unit.
- Avoid use where exposed to excessive dust or humidity. Circuit failure, sound distortion or other damage could result.
- Avoid use in direct sunlight or near heat sources.
- Do not disassemble the unit.
  If the unit does not function and the cause cannot be determined after referring to "TROUBLESHOOTING CHART", unplug the unit and contact your nearest SHARP dealer or service centre.
- Do not stack the unit on top of an amplifier, receiver, or other heat-dissipating component.
- Do not expose the unit to extremely low temperatures.
- Do not place anything on top of the unit. Water and other foreign objects intruding into the unit may result in electrical shock or damage.
- If interference in TV or radio reception occurs during operation, increase the distance between the two components.
- If the unit does not work properly whilst in use, set the POWER switch to ⏻/STAND-BY and then to ON.
- To prevent fire or malfunction, do not place the unit in a poorly ventilated location.
- The cabinet can usually be cleaned with a soft, dry cloth. If necessary, dampen the cloth with a mild detergent.
  Do not use chemically treated cleaning cloths, thinner, benzene, or similar volatile cleaners as these can damage the finish.

NAME OF CONTROLS

Front panel



1. **Timer Switch**
   Selects the timer for timer playback and recording. Set to OFF during normal operation.
2. **Power Switch**
   Turns the power on and off.
3. **Cassette Holder**
   Holds the digital audio tape.
4. **Open/Close Button**
   Press to open the cassette holder, press again to close.
5. **Remote Control Sensor**
   Receives signals from the remote controller.
6. **Programme Number Buttons**
   Used to select the desired programme for APMS and direct selection playback.
7. **Display Button**
   Selects either total playback time or individual programme playback time.
8. **Repeat Button**
   Press to repeat playback. (Not used for recording.)
9. **Memory Button**
   Press to store a programme number for APMS.
10. **Call Button**
    Press to check the order of the programmes for APMS.
11. **Clear Button**
    Press to clear the programme numbers stored for APMS.
12. **Record Level Control**
    Used to adjust the recording level when recording from an audio source connected to the ANALOG INPUT sockets.
13. **Headphones Socket**
    Connects the headphones.
14. **Digital Input Button/Indicator**
    Press to light up the indicator to record from an audio source connected to the DIGITAL INPUT sockets. Press again to turn off the indicator to record from an audio source connected to the ANALOG INPUT sockets.
15. **Auto Rewind Button/Indicator**
    When pressed the indicator lights. When the end of the tape is reached during recording or playback with the indicator lit, the tape is automatically rewound to its beginning and stops.
16. **Auto Start-ID Button/Indicator**
    When recording with the indicator lit, the programme number is automatically recorded. During normal operation, record with the indicator on.
17. **Edit Button**
    Used to manually record or erase a programme number.
18. **Renumber Button**
    Used to renumber the programmes from the beginning of the tape.
19. **Rewind Button**
    Press to rewind the tape. When pressed during playback, playback begins from the beginning of the current programme.
20. **Stop Button**
    Press to stop the tape.
21. **Play Button**
    Press to start playback. When pressed during a pause, playback begins.
22. **Fast Forward Button**
    Press to fast forward the tape. When pressed during playback, playback begins from the beginning of the next programme.

23. Review Button
Press to rewind the tape whilst listening to its contents at approximately 3 times the playback speed.

24. Cue Button
Press to advance the tape whilst listening to its contents at approximately 3 times the playback speed.

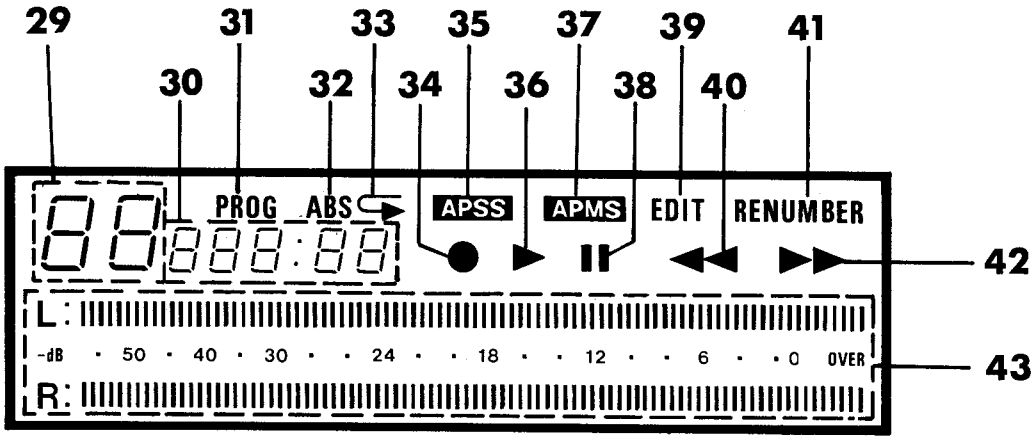
25. Record Button
Press to enter the record stand-by mode. Then press the PLAY button to start recording.

26. Pause Button
Press to pause recording or playback. To resume recording or playback, press the PLAY button.

27. Record Mute Button
When this button is pressed during recording at the end of a programme, a blank portion on the tape is created.

28. Output Level Control
Adjusts the volume at the headphones and the variable output sockets.

Display unit



29. Programme Number Indicator
Displays the programme number. Also displays the programme number for APSS playback (forward APSS or reverse APSS).

30. Time/Programme Indicator
Displays the total playback time, individual programme playback time, or the order of programme.

31. Programme Indicator
Lights when the DISPLAY button is pressed and individual programme playback time is displayed. (When the same button is pressed again, the ABS indicator lights.)

32. Absolute Indicator
Lights when the DISPLAY button is pressed and total playback time is displayed. (When the same button is pressed again, the PROG indicator lights.)

33. Repeat Indicator
Lights during repeat playback.

34. Recording Indicator
Lights when the RECORD button is pressed.

35. APSS Indicator
Lights during APSS operation.

36. Play Indicator
Lights when the PLAY button is pressed.

37. APMS Indicator
Lights during APMS operation.

38. Pause Indicator
Lights when the PAUSE button is pressed.

39. Edit Indicator
Lights when the EDIT button is pressed.

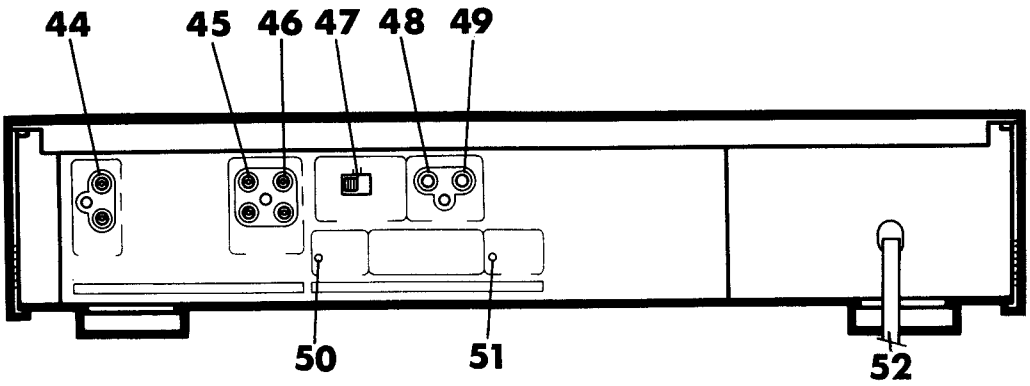
40. Rewind Indicator
Lights during the rewind and review operations.

41. Renumber Indicator
Lights when the RENUMBER button is pressed.

42. Fast Forward Indicator
Lights during the fast forward and cue operations.

43. Digital Operating Meter
Displays the recording level and playback level.

Rear panel



44. Analog Input Sockets (ANALOG)
Connect to the tape output sockets on your stereo amplifier.

45. Fixed Output Sockets (ANALOG)
Connect to the tape input sockets on your stereo amplifier. The outputs are fixed at the maximum level.

46. Variable Output Sockets (ANALOG)
Connect to the tape input sockets of your stereo amplifier. The output level can be adjusted with the OUTPUT LEVEL control.

47. Digital Input Selector
Select the OPTICAL INPUT or COAXIAL INPUT socket.

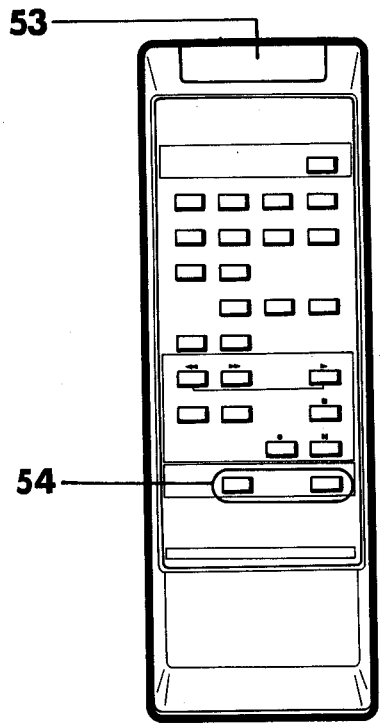
48. Coaxial Input Socket (DIGITAL)
Connects to the COAXIAL OUTPUT socket of another Sharp digital audio tape deck.

49. Coaxial Output Socket (DIGITAL)
Connects to the COAXIAL INPUT socket of another Sharp digital audio tape deck.

50. Optical Input Socket (DIGITAL)
Connects to the OPTICAL OUTPUT socket of another Sharp digital audio tape deck.

51. Optical Output Socket (DIGITAL)
Connects to the OPTICAL INPUT socket of another Sharp digital audio tape deck.

52. AC Supply Lead
Connects to an AC outlet.

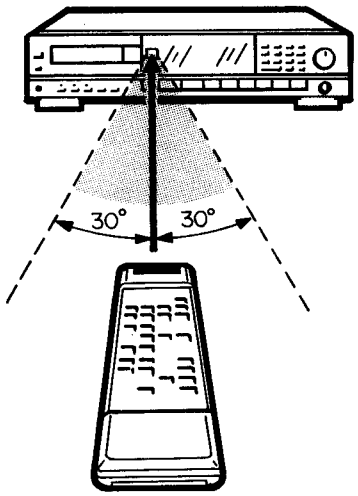


Remote controller

53. Remote Control Signal Sender Window
Point this end toward the remote control sensor (INFRARED REMOTE) on the tape deck and then operate the remote controller.

54. Volume Up/Down Buttons
Operates the same as the OUTPUT LEVEL control. The volume increase when the UP button is pressed and decreases when the DOWN button is pressed.

Note: The other controls have the same functions as those on the front panel.



■ Remote controller

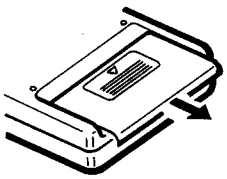
Usable range

Distance: Maximum of about 6 m from the remote control sensor (INFRARED REMOTE) on the tape deck.
Angle: Within about 30 degrees from the centre of the remote control sensor (INFRARED REMOTE) on the tape deck.

Notes

- Objects between the remote controller and the remote control sensor window will prevent remote control operation.
- Operation may not be possible if the remote controller is too close to the remote control sensor window.
- Do not strike or drop the remote controller. Also, do not get the remote controller wet or place it in a humid location.
- Remote control operation may become difficult if the remote control sensor window is in direct sunlight or strong light. Either move the tape deck or change the direction of the light.

1



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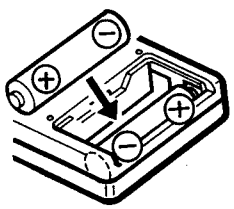

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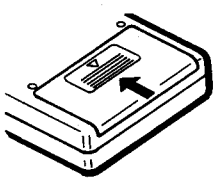


■ Loading batteries for the remote controller

1 Remove the battery cover.
Slide the battery cover in the direction of the arrow.

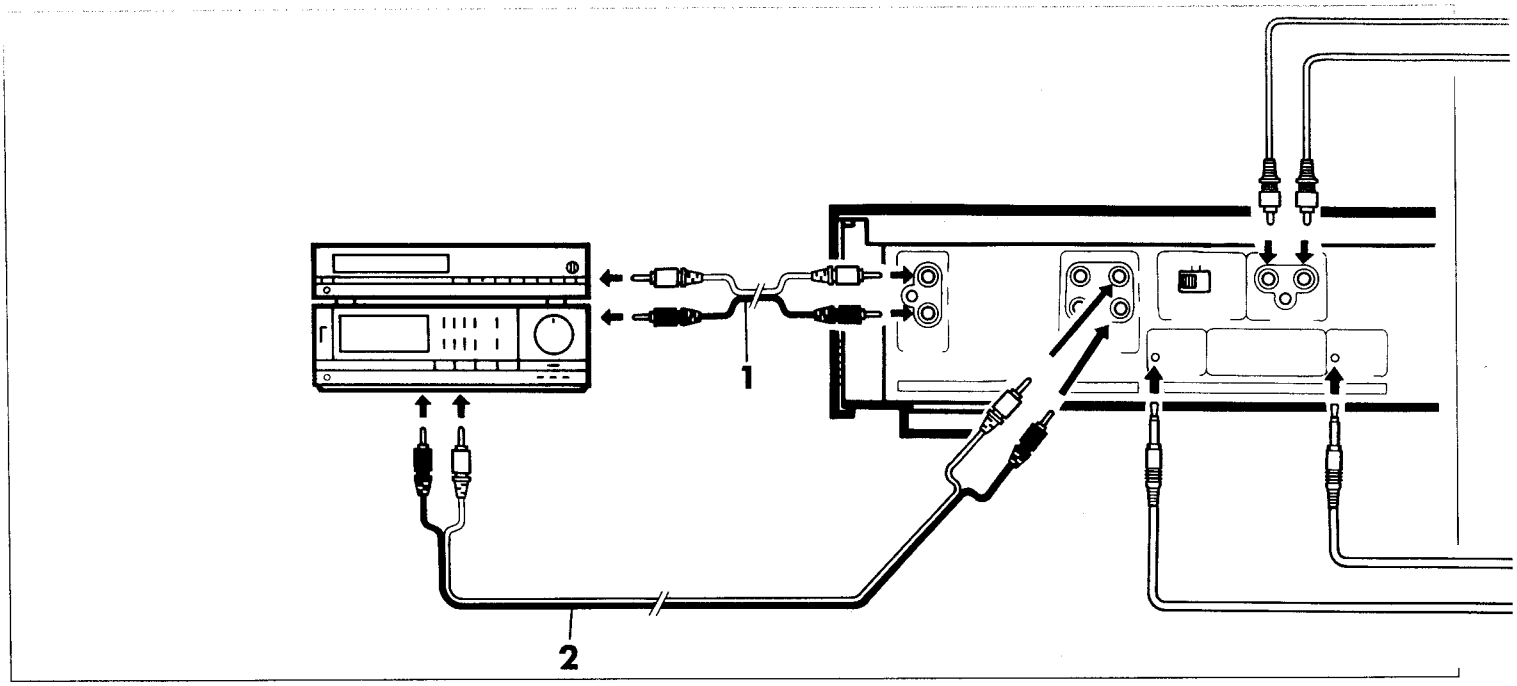
2 Insert the batteries.
Insert two UM-4,HP-16 or R03 batteries.

3 Replace the battery cover.
To close, slide the battery cover until it clicks.

Precautions for battery use

- Insert the batteries according to polarity indicated in the battery compartment.
- Replace all batteries with new ones at the same time.
- Remove the batteries if weak or if unit is not in use.
- Don't mix normal batteries with Ni-Cd, alkaline, or other types.

■ Connections



Connecting an amplifier

Make sure both the amplifier and digital audio tape deck power switches are in ⏻/STAND-BY or OFF positions before connecting the tape deck to the amplifier.

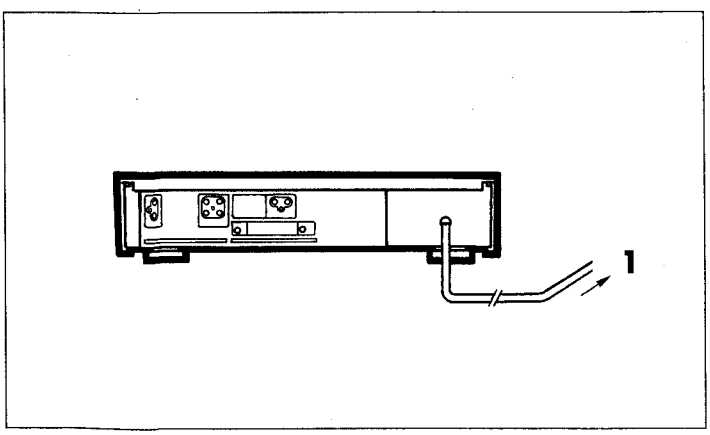
1 Connect the tape deck analog inputs to the tape output sockets on the amplifier.

2 Connect the tape deck analog outputs (FIXED or VARIABLE; see page 5) to the tape input sockets on the amplifier.

- Be sure to connect the same channels of the tape deck and amplifier; right to right, left to left. An easy way to confirm is "red to right".

Notes

- The red light from the optical output socket:
  When you turn on the POWER switch, the inside of the OPTICAL OUTPUT socket illuminates red. This light sends the digital signals. It is not harmful to the eyes.
  When the deck is placed next to a wall, the red light may reflect off the wall and be noticeable. In this case, connect the optical fiber cable to the OPTICAL OUTPUT socket and position the other end of the cable so that the reflection cannot be seen.
- Push the connectors all the way into the sockets. Loose connections will cause noise.

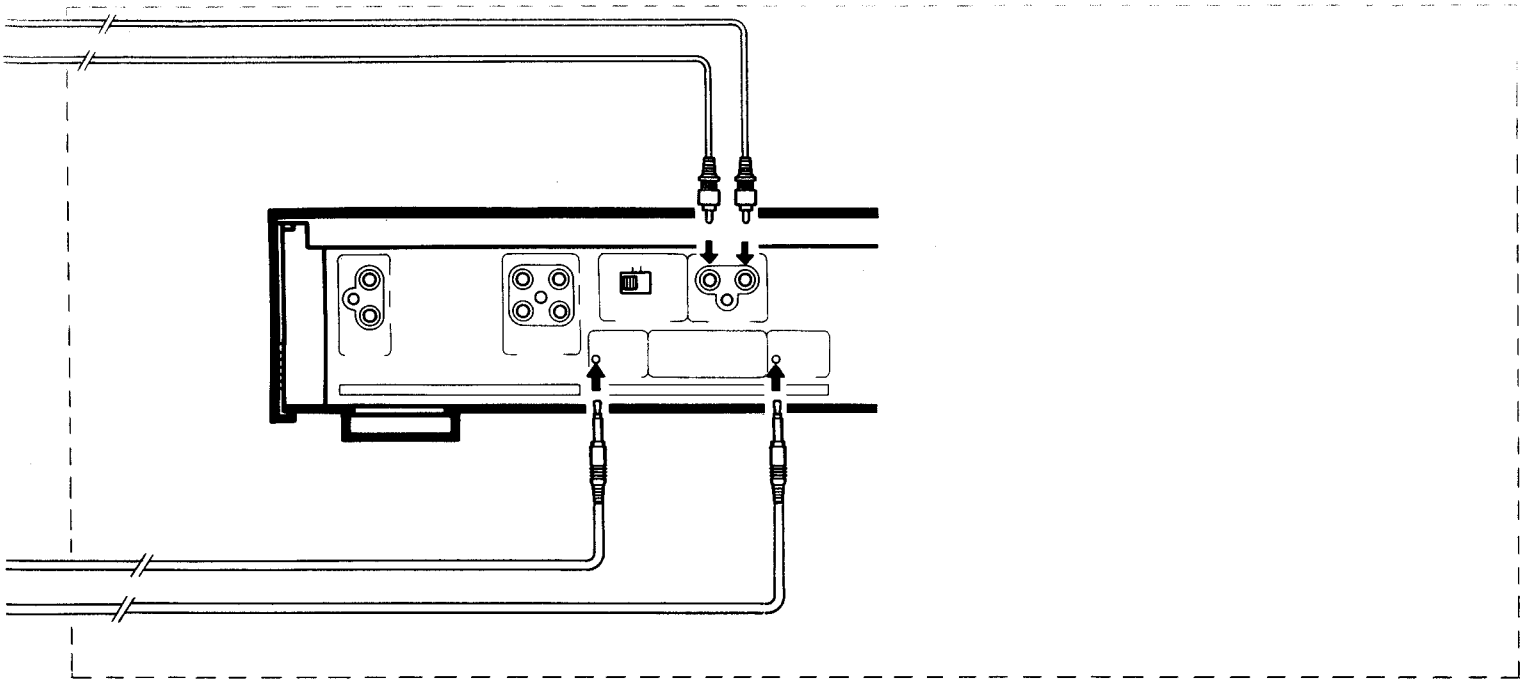


Connecting the AC supply lead

After connecting all equipment, connect the AC supply lead.
When not in use for long periods of time, disconnect the AC supply lead from the AC outlet.

1. To AC outlet

Connecting to another Sharp digital audio tape deck



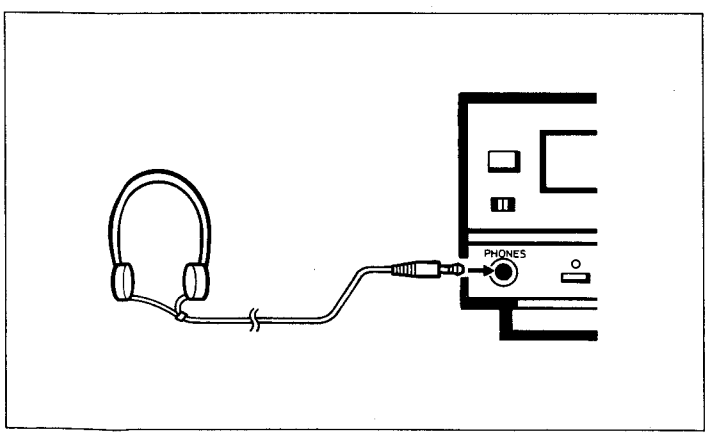
- Set the INPUT SELECTOR on the recording tape deck to match the connection type.

Amplifier volume adjustment

Digital audio tapes produce considerably less noise than regular records and cassette tapes, and are extremely quiet between programmes. Be careful not to raise the volume too high and exceed the amplifier and speaker ratings.
Recommended amplifier input impedance is 10 kohms or higher.
Connecting an amplifier having an input impedance that is too low may decrease the level of the output.

- To connect another Sharp digital audio tape deck for tape dubbing, use a coaxial lead or supplied optical fiber cable as shown in the figure.

Note: Do not connect the supplied optical fiber cable to the ANALOG INPUT sockets , ANALOG OUTPUT or COAXIAL INPUT/OUTPUT sockets. Also do not connect the RCA lead to the OPTICAL INPUT/OUTPUT or COAXIAL INPUT/OUTPUT sockets.

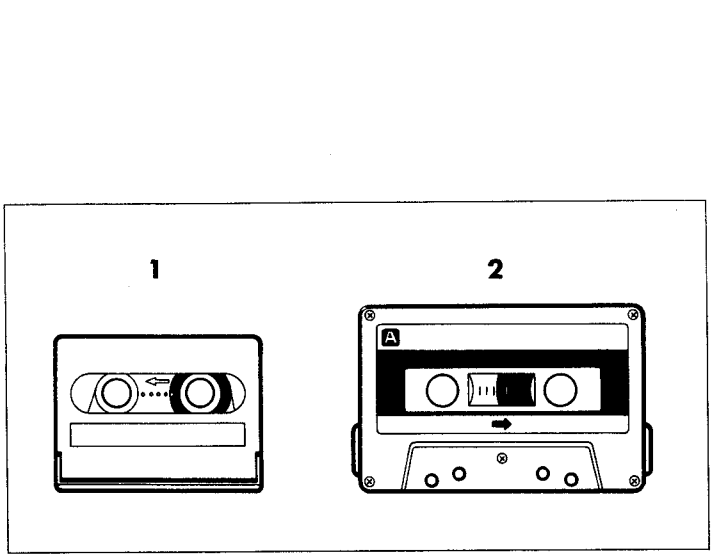


Connecting the Headphones

Use an 8 - to 32 - ohm headphones with a standard stereo headphone plug 6.3 mm(1/4").
The volume can be adjusted with the OUTPUT LEVEL control.

■ Digital audio tapes

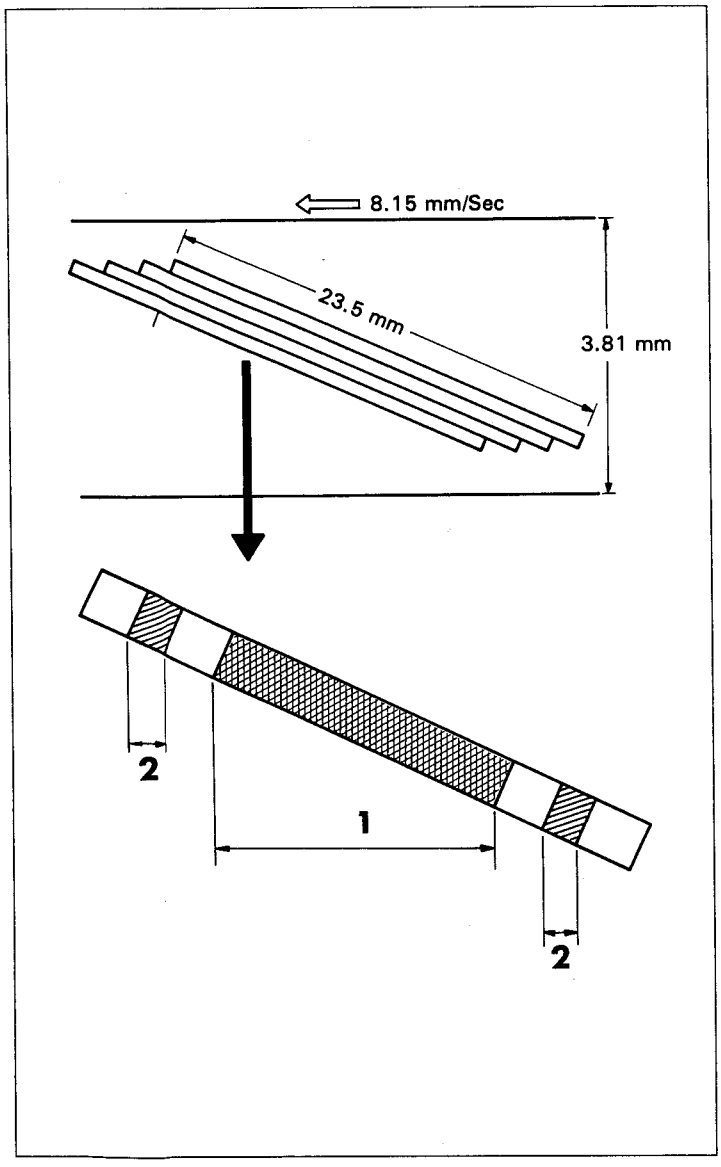
The digital audio tape (DAT) system first converts analog audio signals to digital signals and then records these digital signals on tape for excellent sound quality which matches that of CDs.



DAT cassettes

A DAT cassette measures 73 mmx10.5 mmx54 mm,(2-7/8''x7/16''x 2-1/8'') nearly half the size of compact cassettes. Furthermore, the case is constructed to prevent the tape from being scratched or soiled.
The tape records and plays back in one direction only. (There are no sides A and B.)

1. Digital audio tape (DAT)
2. Compact cassete tape



DAT recording scheme

In the DAT system, the head is rotated at a high speed and mounted at an angle with respect to the direction of tape travel.
The PCM (audio signal) area is recorded with the digital signal which has been converted from the audio signal.
The subcode area is recorded with information such as the track number, individual track elapsed time and total elapsed time. The subcode area enables accurate track searching since the signals in the subcode area are read whilst the tape is moving.

1. PCM area
2. Subcode area

Sampling frequencies

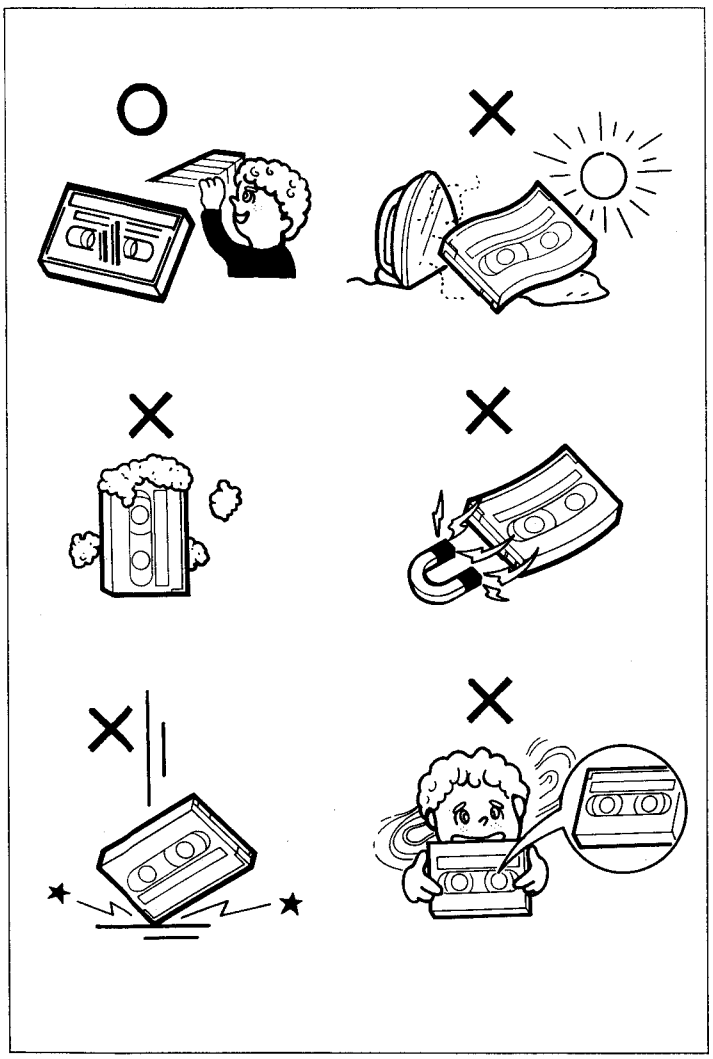
There are 3 sampling frequencies used when converting analog audio signals to digital signals: 48 kHz, 44.1 kHz and 32 kHz.
48 kHz: Used in commercially available DAT music tapes.
44.1 kHz: Used in commercially available DAT music tapes and CDs.
32 kHz: Used in satellite broadcasts.
This tape deck can record and play back at the following sampling frequencies.

Playback: 48 kHz and 44.1 kHz (cannot play back at 32 kHz)
Recording: 48 kHz (cannot record at 44.1 kHz and 32 kHz)

Note: Commercially available DAT music tapes (48 kHz or 44.1 kHz) and CDs cannot be recorded from the digital inputs. Furthermore, certain DAT music tapes recorded at 48 kHz with a copy inhibit signal cannot be recorded from the digital inputs.

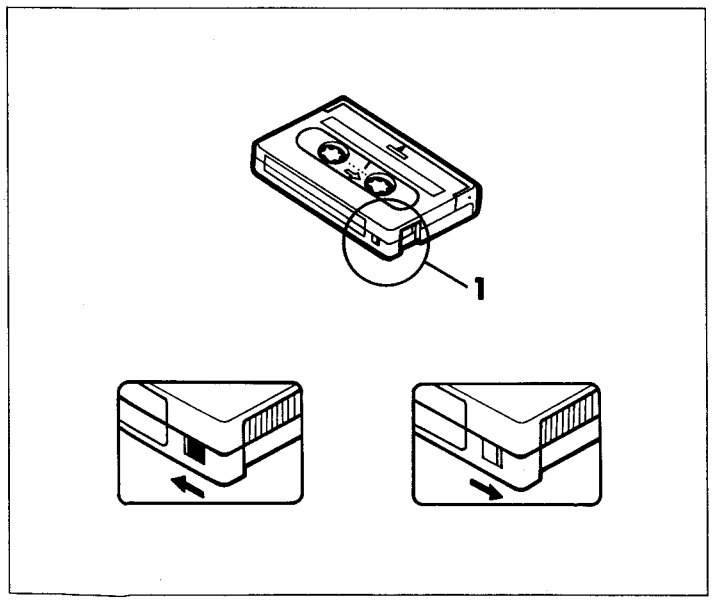
Handling digital audio tapes

- Digital audio tapes are precisely constructed to record and play back highly accurate data. Never open the slider and touch the tape. Touching the tape will make it unusable.
- Do not use scratched, dirty or wrinkled tapes. Use of such tapes will cause sound dropouts or damage the head.



Storing digital audio tapes

- Always keep tapes that are not in use in their cases.
- Avoid storing tapes in direct sunlight, near heat generating equipment or in humid locations.
- Avoid storing tapes in dusty locations.
- Do not store near strong magnetic fields (e.g. near electric clocks, toys using magnets, etc.). Magnetic fields will damage recordings.
- Do not drop or subject the tape to strong vibrations.
- Rewind the tape after use. If there is any slack in the tape, rewind again.

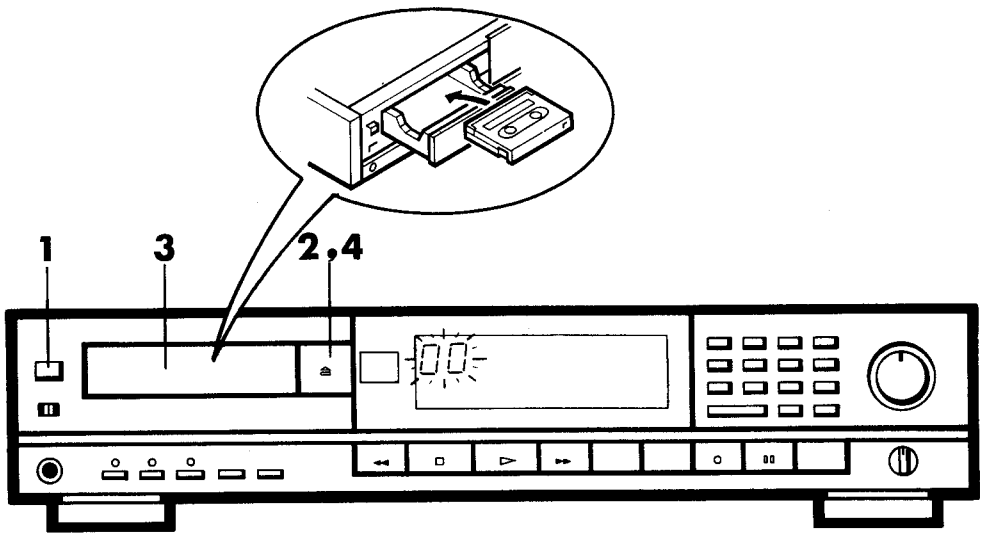


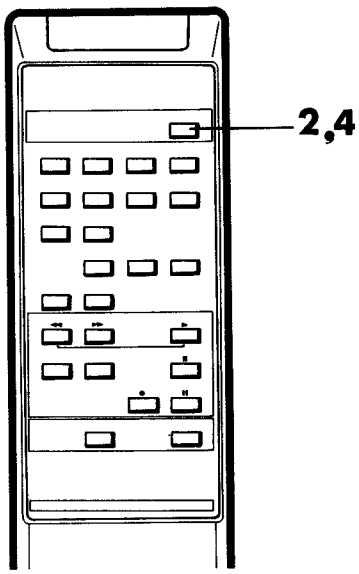
Preventing accidental erasure

- To prevent accidental erasures, slide the tab to the left to open the hole. The tape cannot be recorded even if the RECORD button is pressed.
- To allow recording on the tape again, slide the tab to the right to close the hole.

1. Slide tab

LOADING AND UNLOADING THE CASSETTE





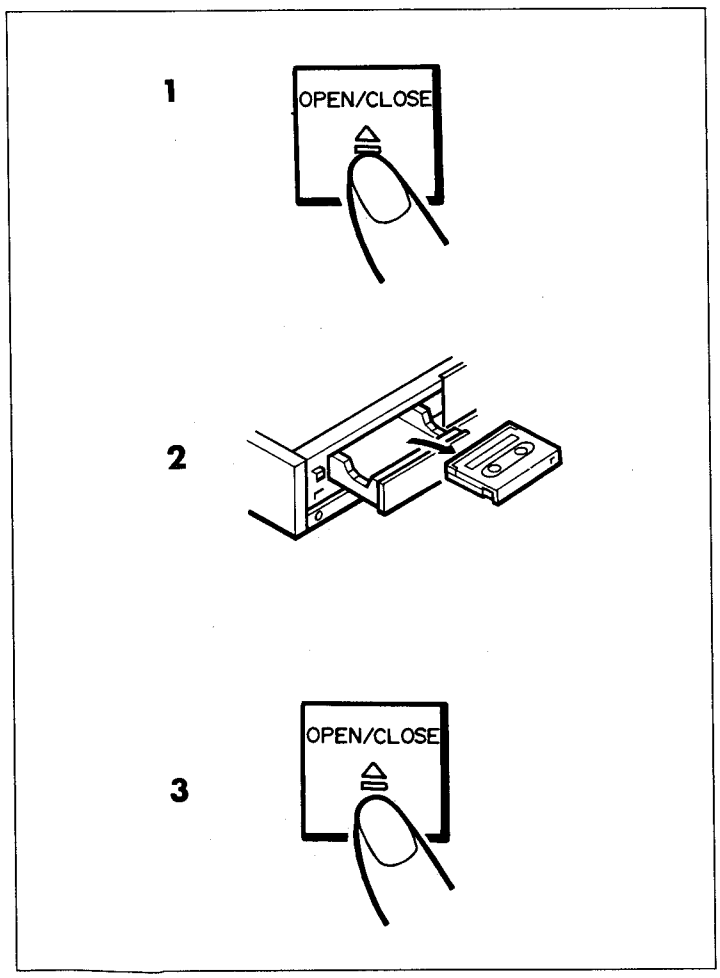
■ Loading the cassette

1 Press the POWER switch to ON.

2 Press the OPEN/CLOSE button to open the cassette holder.
(Programme number indicator "00" flashes for 10 seconds.)

3 Place the cassette in the cassette holder.
Be sure the cassette label faces up and the slide tab faces you on the right side.

4 Press the OPEN/CLOSE button again to close the cassette holder.



■ Unloading the cassette

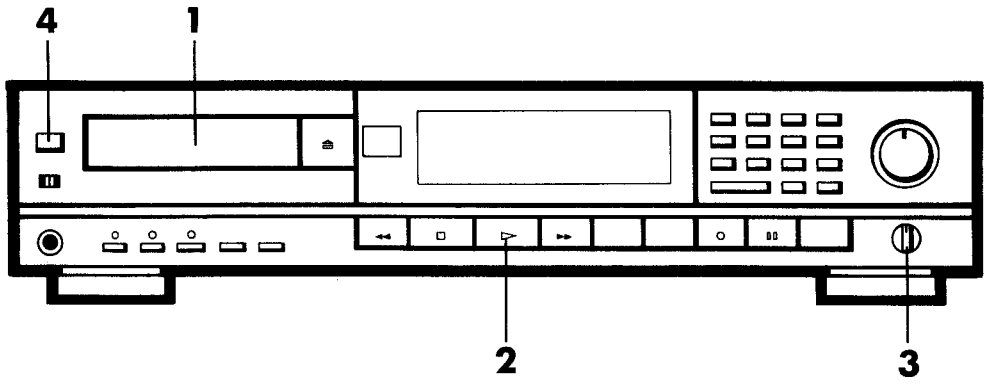
1 Press the OPEN/CLOSE button to open the cassette holder.

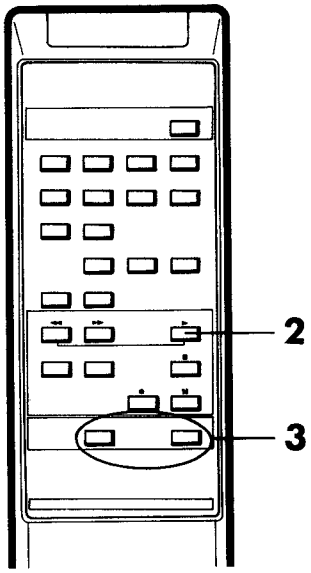
2 Remove the cassette from the cassette holder.

3 Press the OPEN/CLOSE button again to close the cassette holder.

Notes

- The cassette holder will not close completely if the tape is inserted improperly. If the tape has been inserted improperly, press the OPEN/CLOSE button to open the cassette holder and insert again.
- If the cassette holder does not close completely, it will automatically open after about 10 seconds even if the OPEN/CLOSE button is not pressed.
- Do not attempt to open or close the cassette holder by hand. Doing so will damage it.





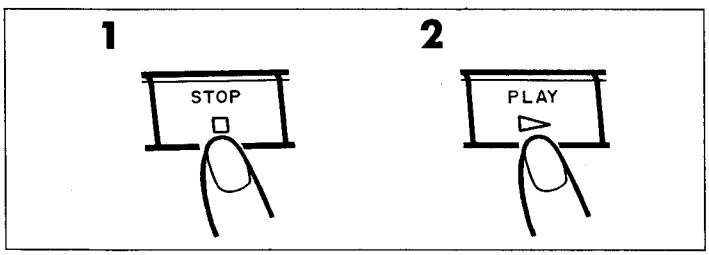
■ Normal playback

1 Load the tape in the cassette holder.
(The tape loads and the programme number is displayed after 10 seconds.)

2 Press the PLAY button.

3 Adjust the volume.
If the amplifier is connected to the ANALOG OUTPUT (VARIABLE) sockets, the output level can be adjusted with the OUTPUT LEVEL control. To adjust the volume with the remote controller, first adjust the volume of the amplifier and then press the VOLUME UP/DOWN buttons to set the desired volume. If the amplifier is connected to the ANALOG OUTPUT (FIXED) sockets, adjust the volume on the amplifier.

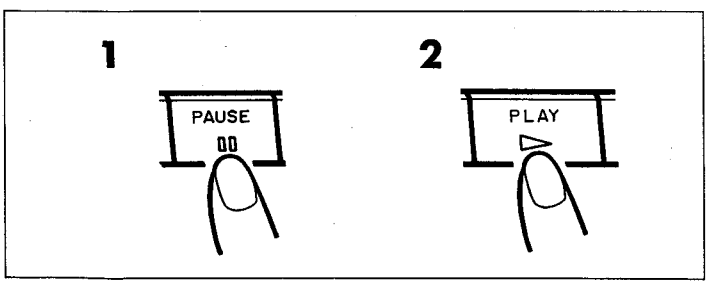
4 After use, unload the tape and set the POWER switch to ⏻ /STAND-BY.



Stop

1 Press the STOP button.

2 To start playback again, press the PLAY button.

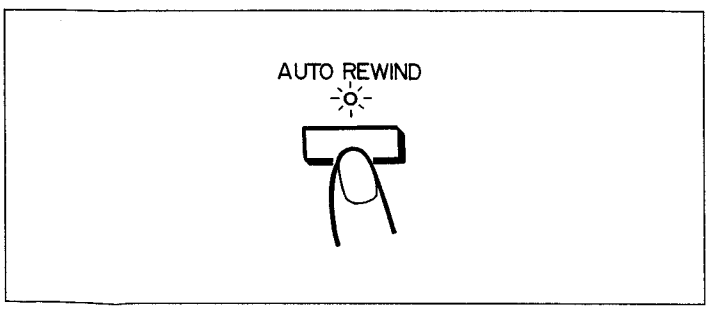


Pause

1 Press the PAUSE button.

2 To resume playback, press the PLAY button.

Note:
To protect the tape, the pause mode automatically clears after 3 minutes and the tape is stopped.

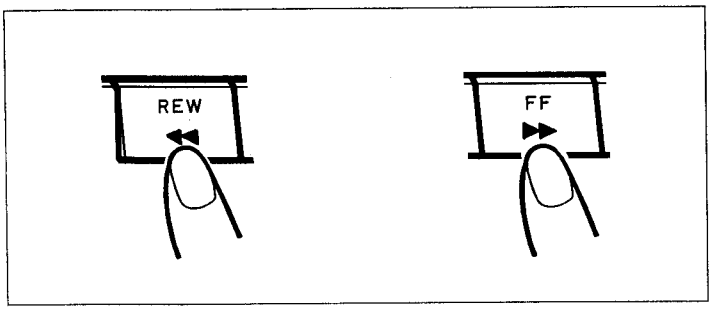


Auto-rewind

If the auto-rewind function is on, the tape is automatically rewound to its beginning when the end of the tape is reached. Press the AUTO REWIND button to turn on the auto- rewind function and press again to turn off.

■ APSS (Auto Program Search System)

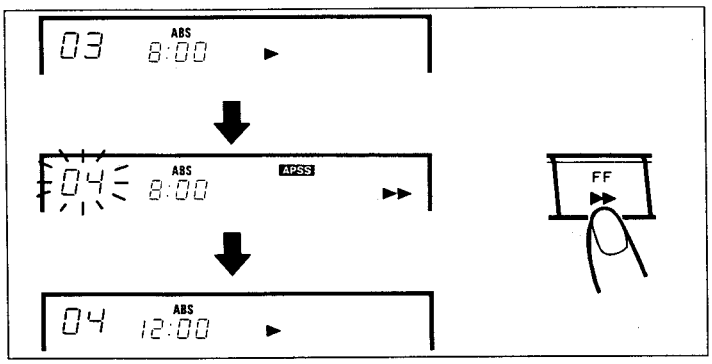
APSS automatically allows you to locate the beginning of any programme during playback. Simply press the FF or REW button to move forward or backward through the tape.



1 Play the tape as described in "Normal playback"

2 Press the FF button to move to the next programme. Press the REW button to move to the beginning of the current programme. Each press of the FF or REW button moves the tape one programme forward or backward.

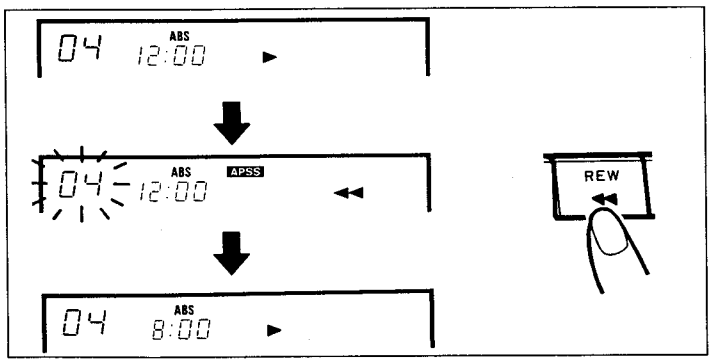
Note:
The tape can be paused at the beginning of the desired programme when the PAUSE button is pressed after the FF or REW button. The desired progaramme can then be played by pressing the PLAY button.



Examples:

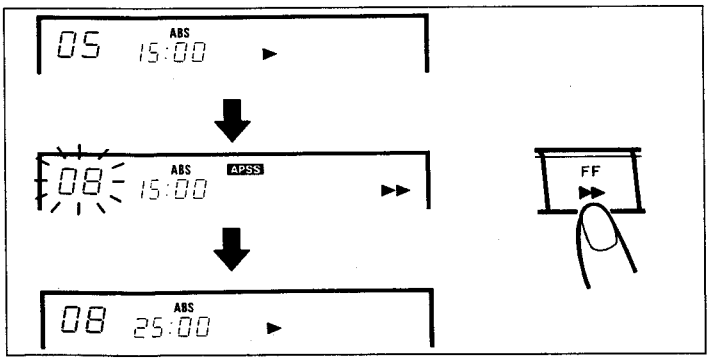
To move to programme 4 whilst programme 3 is playing (forward APSS)

- Press the FF button once whilst track 3 is playing. The programme number indicator changes from 3 to a flashing 4 and the tape is fast forwarded.
- When the flashing stops, playback starts from the beginning of programme 4.



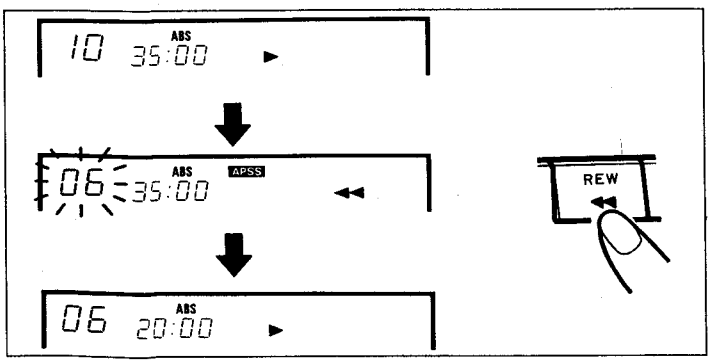
To play from the beginning of programme 4 whilst programme 4 is playing (reverse APSS)

- Press the REW button once whilst programme 4 is playing. The programme number indicator changes to a flashing 4 and the tape is rewound.
- When the flashing stops, playback starts again from the beginning of programme 4.



To skip to programme 8 whilst programme 5 is playing

- Press the FF button 3 times whilst programme 5 is playing. The programme number indicator changes from 5 to a flashing 8 and the tape is fast forwarded.
- When the flashing stops, playback starts from the beginning of programme 8.

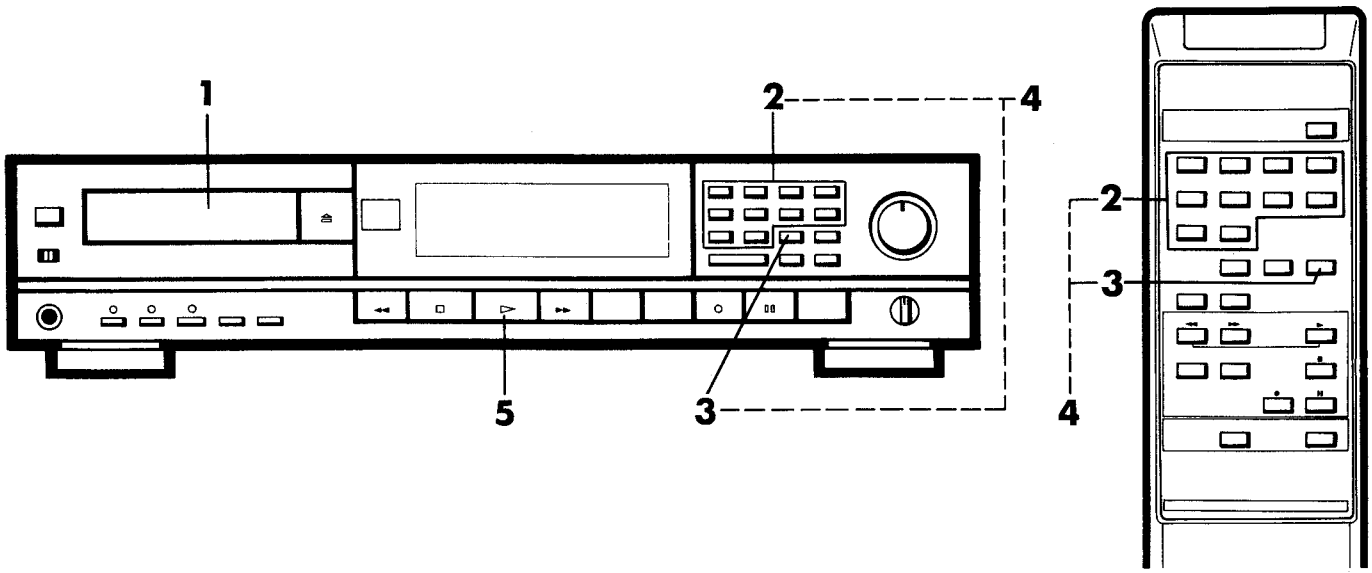


To skip to programme 6 whilst programme 10 is playing

- Press the REW button 5 times whilist programme 10 is played. The programme number indicator changes from 10 to a flashing 6 and the tape is rewound.
- When the flashing stops, playback begins from the beginning of programme 6.

■ APMS (Automatic Programmable Music Selector)

APMS allows you to set the order of the programmes to be played back. (APMS functions properly only on tapes with correctly numbered programmes. Otherwise, playback may stop suddenly. If the tape contains programmes that are not numbered correctly, see page 20.)



1 Load the tape.

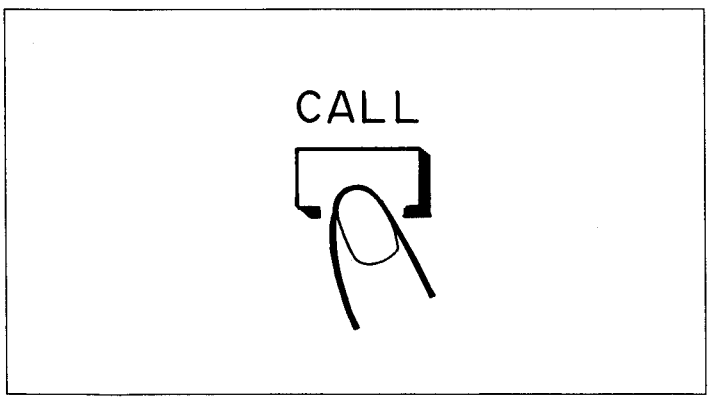
2 Using the APMS (0-9) buttons, enter the desired programme number.

3 Press the MEMORY button.

4 Repeat steps 2 and 3 as desired to store a maximum of 30 programmes.

5 Press the PLAY button.

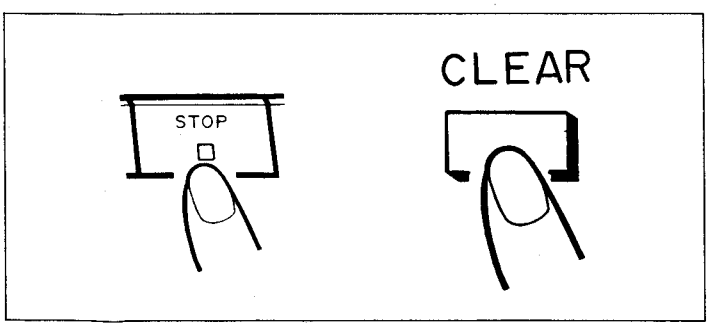
Note:
APSS can be used during APMS playback. Press the FF or REW button to move forward or backward among the APMS programmes.



To check the order of the APMS programmes

In the stop mode, press the CALL button.
The APMS programme numbers are displayed in sequence.

Notes
- When the CALL button is pressed during playback, the programme number for the next APMS programme numbers to be played is displayed for about 1 second.
- The APMS programme numbers cannot be confirmed even if the CALL button is pressed during the pause mode.

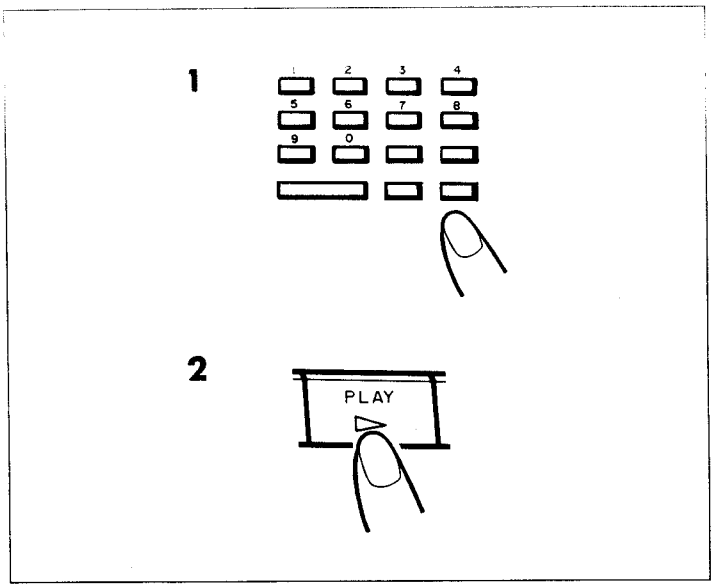


To clear the APMS programme numbers

1 Press the STOP button.

2 Press the CLEAR button.

- The APMS programme numbers cannot be cleared during the playback or pause mode.



■ Direct selection

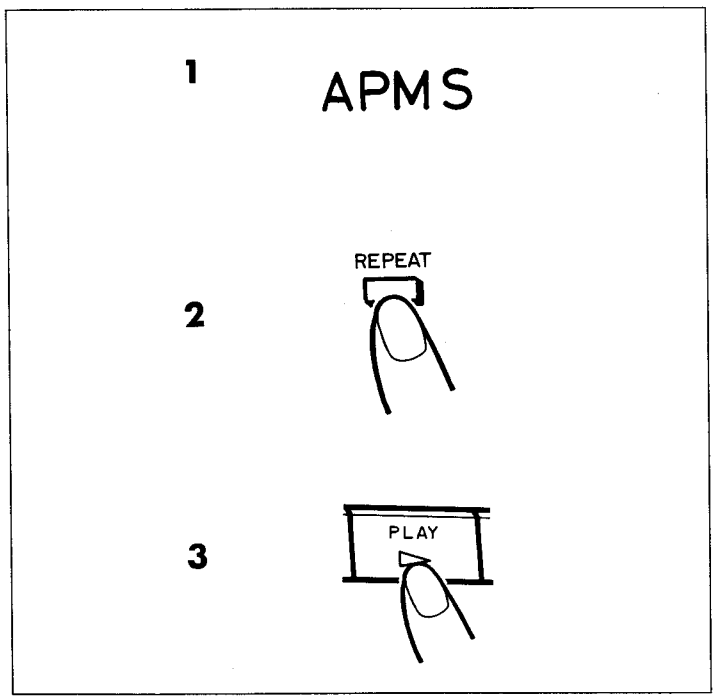
Any programme can be selected and played back.

1 Whilst in the stop mode, enter the desired programme number using the APMS (0-9) buttons.

2 Press the PLAY button.

Notes

- If a programme not found on the tape is selected, the tape fast forwards until the end and then stops.
- Direct selection playback does not function on tapes that do not contain programme numbers, or have their programmes numbered incorrectly.
- Direct selection playback cannot be used if programmes are memorized for APMS.



■ Repeat playback

Repeat playback allows you to repeat one ,APMS or all the programmes.

1 Store the desired programmes using APMS. (To repeat all the programmes, APMS is not required.)

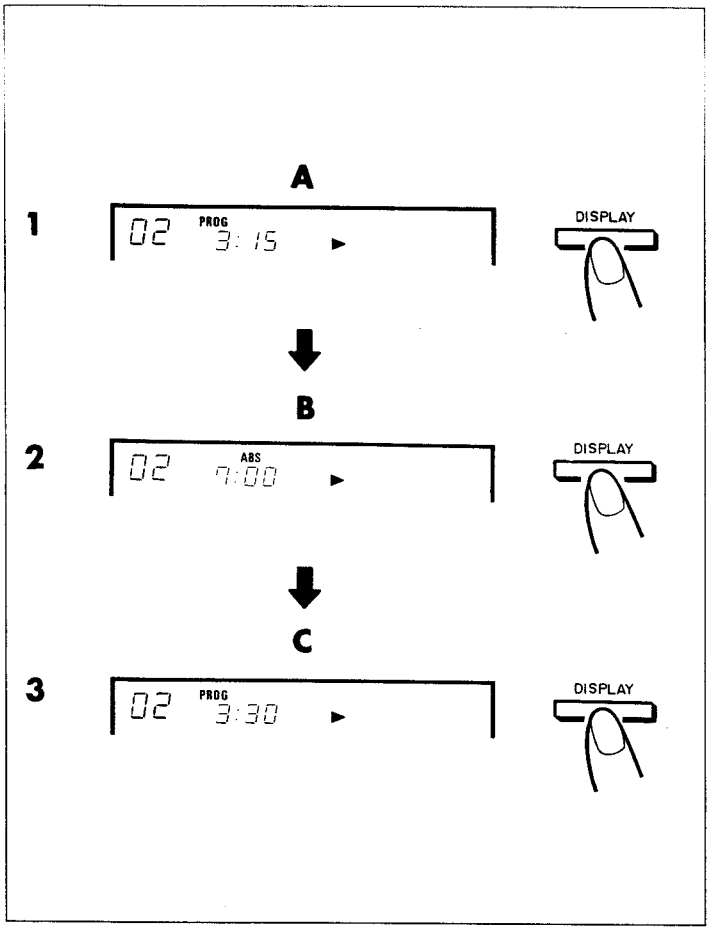
2 Press the REPEAT button. (The REPEAT indicator lights.)

3 Press the PLAY button.
Playback repeats until the STOP button is pressed.

4 Press the REPEAT button again to clear the repeat playback mode.

Notes

- When using the repeat playback function for long periods of time, playback may stop suddenly. This is due to a dirty head. If this happens, clean the head.
- If the REPEAT button is pressed during playback, the current programme is repeated.



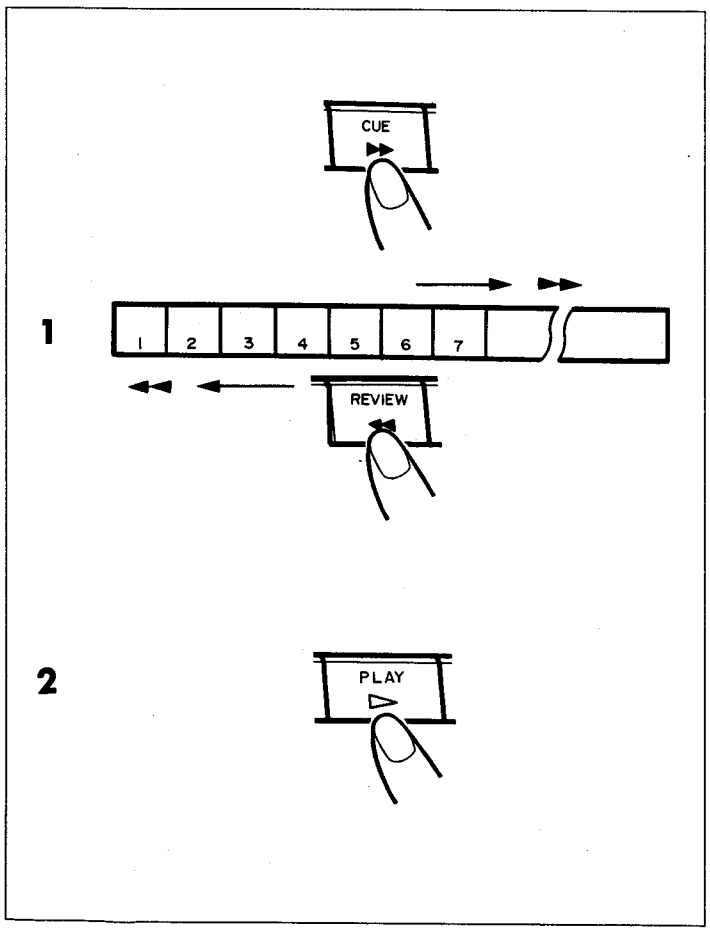
■ To check the elapsed time during playback

1 Press the DISPLAY button.
The PROG indicator lights and the elapsed playback time from the beginning of the current programme is displayed.

2 Press the DISPLAY button again.
The ABS indicator lights and the total elapsed playback time from the beginning of the tape is displayed.

3 Press the DISPLAY button again.
The PROG indicator lights and the elapsed playback time from the beginning of the current programme is displayed.

Examples:
A: Display at 3 minutes and 15 seconds after the start of the second programme.
B: Display at 7 minutes (total elapsed time) after the start of the tape.
C: Display at 3 minutes and 30 seconds after the start of the second programme.



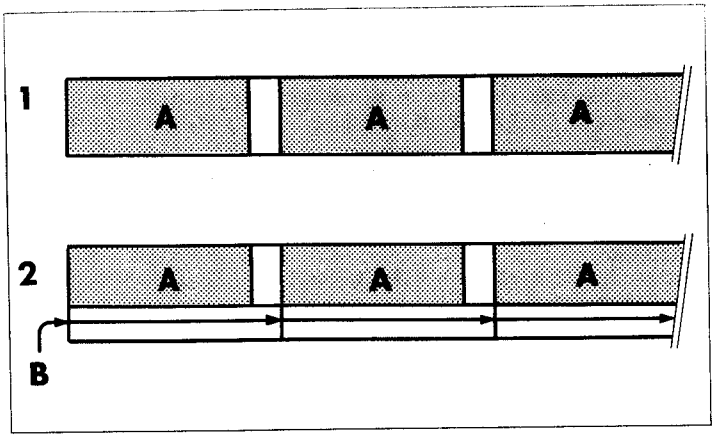
■ Cue and review

The CUE and REVIEW buttons allow you to move to the desired location on tape whilst listening to the programme. (Cue and review may not function on some commercially available music tapes due to differences in recording methods.)

1 Press the CUE button or REVIEW button to move forward or backward on the tape.
The tape will move forward (cue) or backward (review) at about 3 times the regular playback speed.

2 Press the PLAY button when you reach the desired location. Playback begins immediately.

Notes:
- Cue and review do not function when programmes are memorized using APMS.
- Digital output signals are not output from the OPTICAL OUTPUT and COAXIAL OUTPUT socket during the cue and review operations.
- When the beginning or the end of the tape is reached, the tape automatically stops.



■ Introduction to DAT recording

Unlike ordinary compact cassette tapes, digital audio tapes contain an area called the subcode area which stores a number of signals. In compact cassette tapes, nothing is recorded between programmes (songs), whilst in digital audio tapes, signals such as the programme number and elapsed time are recorded in the subcode area even between tracks.

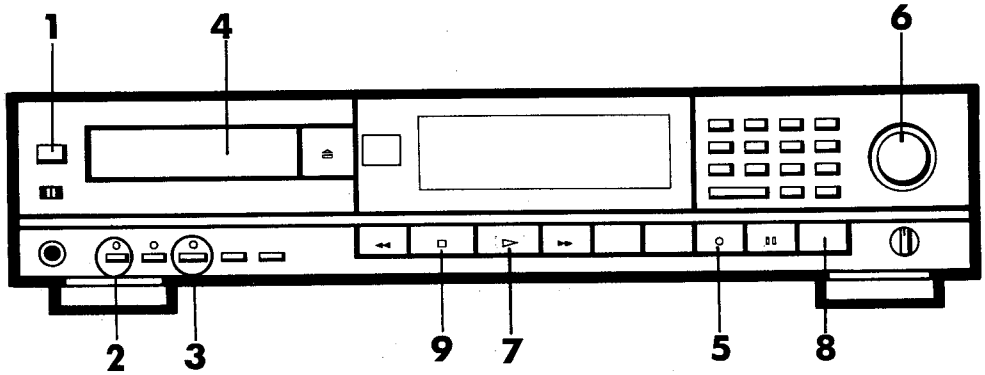
1. Compact cassette tape
2. Digital audio tape (DAT)

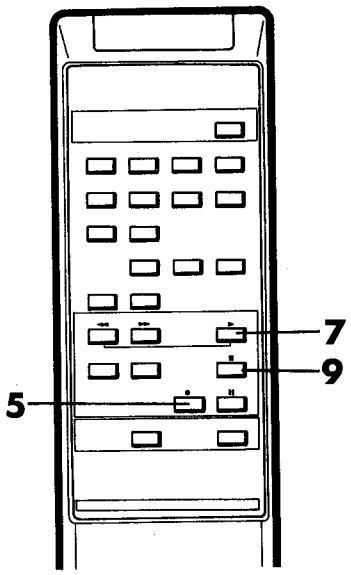
A: Songs
B: Subcode signal

■ Recording a programme with its programme number

- Before making an important recording, it is recommended that you make a trial recording to ensure that the desired audio is being recorded properly.

Use the following procedure to record from a compact disc or another digital audio tape.





Commercially available DAT music tapes and CDs cannot be recorded through the digital input.

1 Press the POWER switch to ON.

2 Select the input by pressing the DIGITAL INPUT button.
- To record from equipment connected to the ANALOG INPUT sockets, turn off the DIGITAL INPUT indicator.
- To record from equipment connected to the OPTICAL INPUT or COAXIAL INPUT socket, turn on the DIGITAL INPUT indicator.
- The indicator turns on or off each time you press the button.

Caution:
When the DIGITAL INPUT button is pressed during recording, the switching noise will be recorded. Press this button before the RECORD button to prevent recording switching noise.

3 Check that the AUTO ST-ID indicator is on. (If it is off, press the AUTO ST-ID button to turn it on.)

4 Load the tape in the cassette holder.
(The tape loads and the programme number is displayed after 10 seconds.)

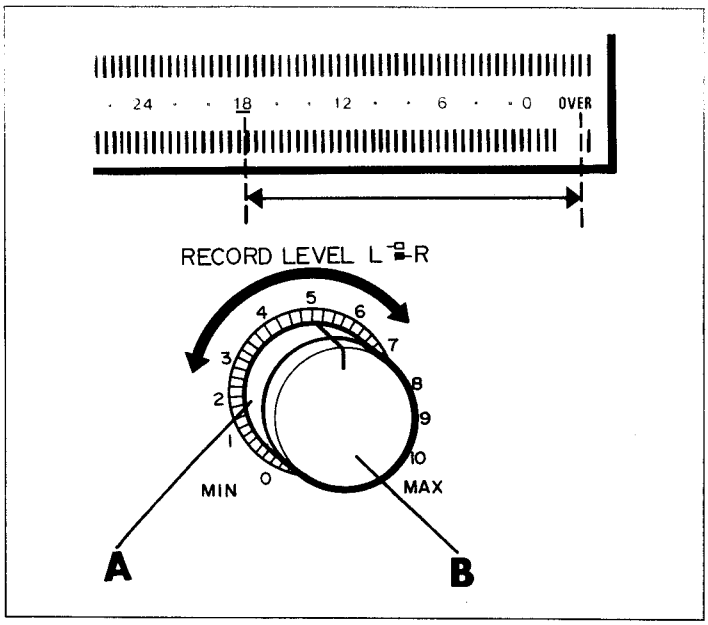
5 Press the RECORD button to select the record mode.
The tape deck enters the record stand-by mode. When recording from the beginning of the tape, a blank section of tape (about 10 seconds) is automatically recorded before the record stand-by mode.

6 Turn the RECORD LEVEL control to adjust the recording level only when recording from the ANALOG INPUT sockets. See "Adjusting the recording level".

7 Press the PLAY button to start recording within 3 minutes after pressing the RECORD button.
(Commercially available DAT music tapes cannot be recorded from the OPTICAL INPUT or COAXIAL INPUT socket. Therefore, recording will not start even if the PLAY button is pressed. In this case, select the stop mode, press the DIGITAL INPUT button to switch to the analog input and then record.)

8 When the programme being recorded ends, hold down the REC MUTE button for about 10 seconds.
This creates a blank portion on tape. It is recommended that you always add a blank portion at the end of a programme so that the programme number for the next programme will be correctly recorded.

9 Whilst still holding down the REC MUTE button, press the STOP button.



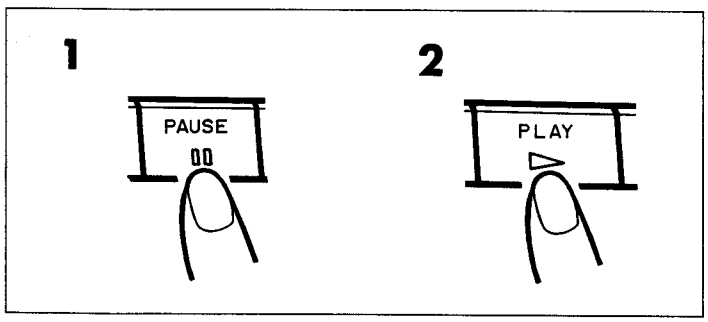
Adjusting the recording level

- As a guide, adjust so that the MULTI GRAPHIC DISPLAY/DIGITAL OPERATING METER is between "- 18 dB" and "OVER." Be sure the peak levels do not reach "OVER." If the peak levels exceed "OVER," distorted sound may result. If the level is adjusted so low that the peak levels do not reach "-18 dB," a noisy recording may result.
- When the recording levels for the left and right channels are different, adjust the left and right channels separately. (See the figure.)
- When recording from the fixed output sockets of a CD player, set the RECORD LEVEL control to around "4" for optimum results.
  A: Right channel
  B: Left channel

The programme numbers may not be recorded properly when recording from compact discs and digital audio tapes containing the following:

- Conversations with breaks in them.
- Low overall recording level.
- Short intervals (2 seconds or less) between programmes.
- Long pianissimo passages or instrumentals with no singing.
- Noise or hum between programmes.

If the programme numbers are not recorded properly, add or erase the track numbers. (See page 20.)



Pausing the recording

1 Press the PAUSE button.

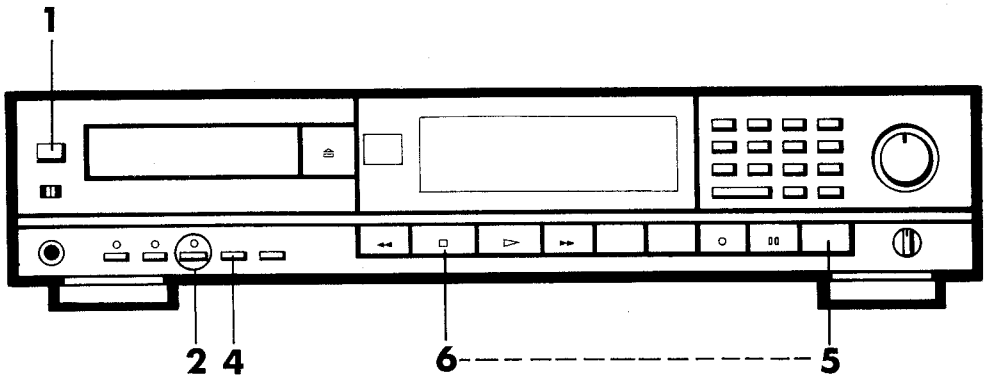
2 Press the PLAY button to resume recording.
To protect the tape, the pause mode automatically clears after 3 minutes and the tape is stopped.

- The number of recorded programmes and the programme number displayed on the unit may not be the same, even if programmes are recorded automatically. This may occur sometimes depending on the contents of the recorded programmes (noise or short blanks between programme, dropouts, etc.). In this case, add or erase the programme numbers. (See page 20.)

■ Recording a programme whilst manually recording the programme number

Use the following procedure to record from a cassette tape, record, radio broadcast or TV audio channel.

When recording from these sources, the programme numbers may not be recorded automatically and so must be done manually.



1 Press the POWER switch to ON.
Check that the DIGITAL INPUT indicator is off.

2 Press the AUTO ST-ID button to turn off the AUTO ST-ID indicator.

3 Start recording as described in steps 4-7 on page 17.

4 Press the EDIT button.
- When recording from the beginning of the tape, the programme number for the first programme is automatically recorded.
- Press this button from the second programme and the programme number will be recorded.

5 After the recording for the desired programme ends, hold down the REC MUTE button for about 10 seconds.

6 Whilst holding down the REC MUTE button, press the STOP button.
The tape stops and recording ends.

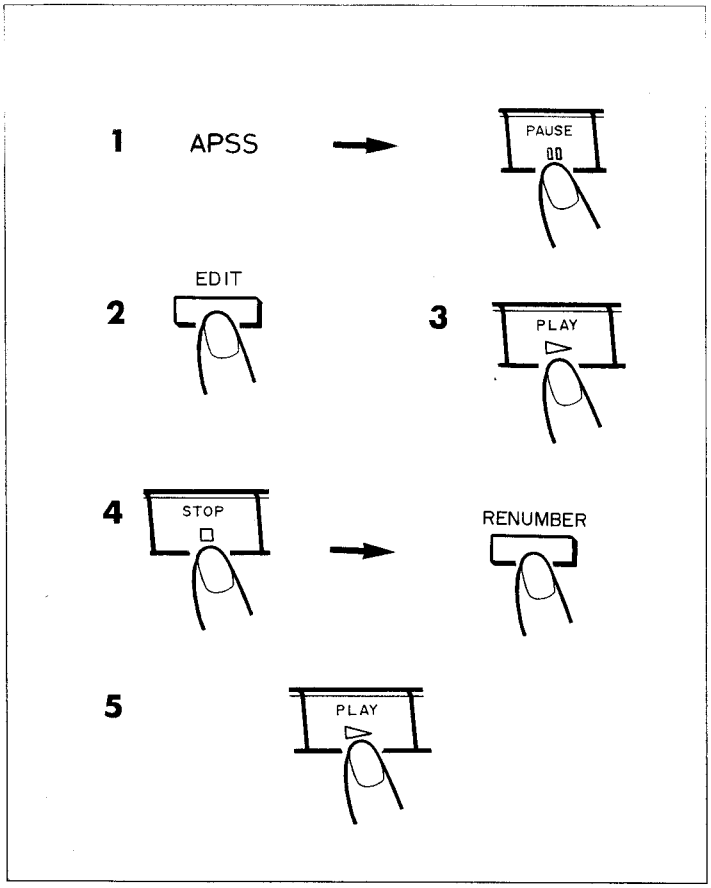
After recording the tape, play it and check that the number of the recorded programmes match the displayed programme number. When the tape is recorded properly, the displayed programme number matches the number of the programmes.

A: Displayed programme number
B: Recorded programme
C: Songs (1 to 5)

A	01	02	03	04	05
B	C(1)	C(2)	C(3)	C(4)	C(5)

However, the programme numbers must be rewritten when:
The displayed programme number changes in the middle of a programme—see "Erasing an unnecessary programme number".

The displayed programme number remains the same even after the programme changes—see "Recording programme numbers".



■ Erasing an unnecessary programme number

Use the following procedure when an unnecessary programme number is recorded in the middle of a programme.

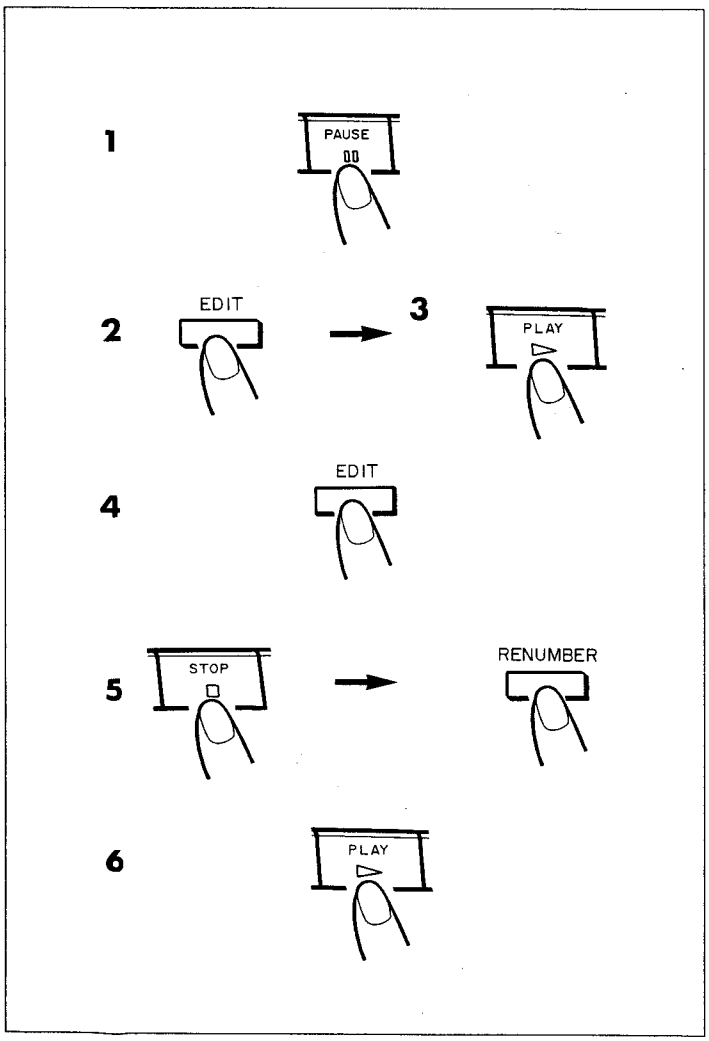
1 Move the tape to the beginning of the desired programme (containing the unnecessary programme number) using APSS and then press the PAUSE button whilst the programme number flashes.

2 Press the EDIT button.
The EDIT indicator on the display turns on.

3 Press the PLAY button.
Playback resumes. After 18 seconds, the EDIT indicator clears.
Repeat steps 1-3 to erase any further programme numbers.

4 After the EDIT indicator clears, press the STOP button, then the RENUMBER button.

5 Press the PLAY button.
After programme numbers have been rewritten to the end of the tape, the tape is automatically rewound and stops.



■ Recording programme numbers

Use the following procedure if the programme number is not recorded between programmes.

1 Press the PAUSE button about 4 to 5 seconds before the beginning of the programme for which the programme number is to be recorded.

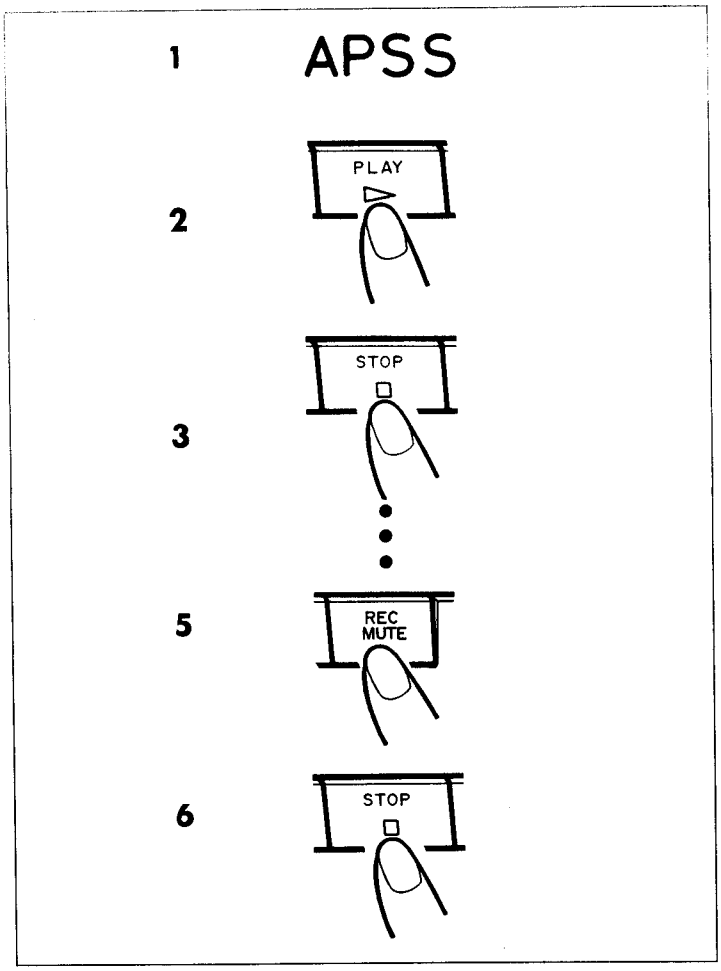
2 Press the EDIT button.
The EDIT indicator on the display turns on.

3 Press the PLAY button.
Playback resumes. After 18 seconds, the EDIT indicator clears.

4 Whilst listening to the programme, press the EDIT button at the desired location.
Press the EDIT button whilst the EDIT indicator is on.
Repeat steps 1-4 to add further programme numbers.

5 After the EDIT indicator clears, press the STOP button, then the RENUMBER button.

6 Press the PLAY button.
After programme numbers have been rewritten to the end of the tape, the tape is automatically rewound and stops.



■ Recording a programme on a previously recorded tape

Use the following procedure to record a programme at the end of a previous recording. This also records a programme number which follows the previous one.

1 Locate the end of the last programme (e.g. using APSS).

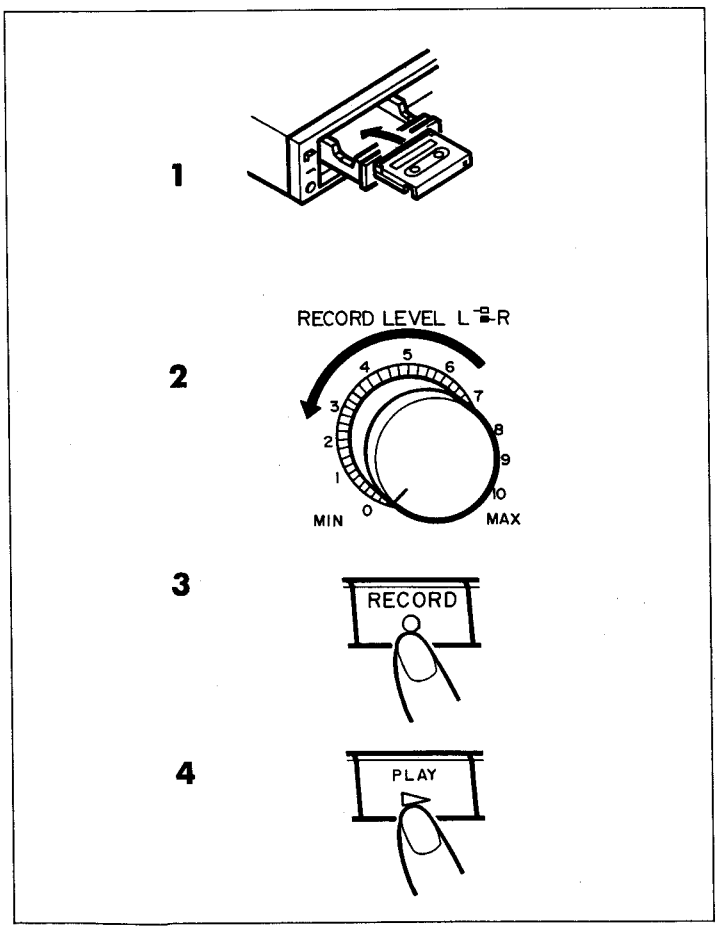
2 Press the PLAY button.
The CUE button can also be pressed to help locate the end of the programme.

3 At the end of the last programme, press the STOP button.

4 Start recording the next programme.
See steps 4-7 on page 17.

5 After recording the desired programme, hold down the REC MUTE button for about 10 seconds.

6 Whilst holding down the REC MUTE button, press the STOP button.
The tape stops and recording ends.



■ Erasing a programme

When a recording is made over a previous recording, the previous recording is automatically erased. To erase the previous recording without making a new recording, use the following procedure.

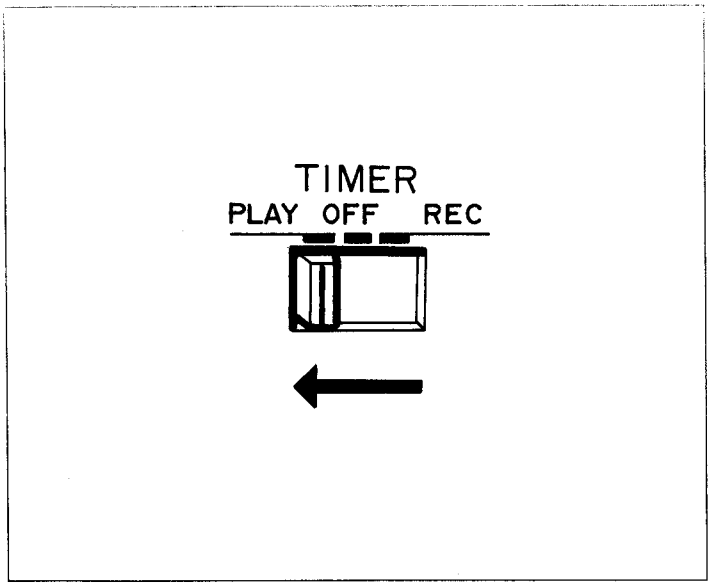
1 Load the tape in the cassette holder.
(The tape loads and the programme number is displayed after 10 seconds.)

2 Turn the RECORD LEVEL control all the way anti-clockwise to 0 (MIN).

3 Press the RECORD button

4 Press the PLAY button.
The previously recorded programmes will be erased.

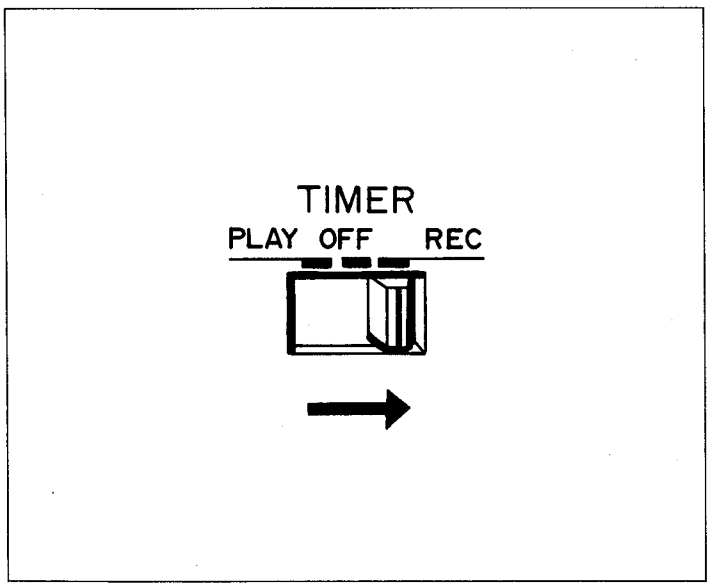
TIMER PLAYBACK AND RECORDING



- Use of a commercially available timer allows automatic playback and recording.

■ Timer playback

1. Set the POWER switch to ON and load the tape to be played into the cassette holder.
2. Set the TIMER switch to PLAY.
3. Set the POWER switch to ⏻/STAND-BY. This clears the display.
4. Unplug the AC supply lead from the wall outlet and plug it into the timed outlet on the audio timer.
5. Set the audio timer to the time when playback is desired. (For more information, see the operation manual for the audio timer.)
6. Set the POWER switch to ON.



■ Timer Recording

Connect the necessary audio components to the audio timer to prepare for recording.

1. Set the POWER switch to ON and load the tape to be recorded into the cassette holder.
2. Set the TIMER switch to REC.
3. Set the POWER switch to ⏻/STAND-BY. This clears the display.
4. Unplug the AC supply lead from the wall outlet and plug it into the timed outlet on the audio timer.
5. Set the audio timer to the time when recording is desired. (For more information, see the operation manual for the audio timer.)
6. Set the POWER switch to ON.

When the preset time arrives, timer playback or recording begins.

Notes:
- Set the TIMER switch to OFF when timer playback or recording is not used.
- When the TIMER switch is set to PLAY or REC and the POWER switch is turned ON, the playback or record mode is selected.
- The digital input cannot be used for timer recording.
- Do not use the unit in locations susceptible to dew condensation. (For more information, see page 2.)

TROUBLESHOOTING CHART

Many potential "problems" can be resolved by the owner without calling upon a service technician. If something seems to be wrong with your tape deck, check the following before calling an authorised SHARP dealer or service centre.

PROBLEM	CHECK
Power does not turn on.	● Is the AC supply lead plugged in?
The cassette holder does not close even after a tape is loaded.	● Is the tape loaded properly? ● Is a DAT tape used?
The tape deck is inoperative.	● Is there a tape loaded? ● Are there any foreign objects in the cassette holder? ● Is there dew on the head or tape? (See page 2.)
No playback sound from both channels.	● Is the OUTPUT LEVEL control at MIN? ● Is the tape deck connected properly to an amplifier? (See page 7.)
No playback sound from one channel.	● Is the RCA cable disconnected?
The total elapsed playback time is incorrectly displayed.	● Are the programme numbers recorded in the correct order?
The number of the programmes and the programme numbers do not match. (e.g. There are 6 recorded programmes but only programme numbers 01, 02, 03, 04 and 05.)	● This can happen with certain types of recorded sounds (e.g. noise between programmes, short interval between programmes, noise dropouts, etc.). See "Recording programme numbers" on page 20.
The programme selected with APSS or APMS is not the desired programme.	● Do the number of the programmes and the programme numbers match? (See "Erasing an unnecessary programme numbers" or "Recording programme numbers" on page 20.)
The tape stops during APMS operation.	● Are all the APMS programme numbers valid? ● Are the programme numbers renumbered?
The audio from the digital input cannot be recorded.	● Is the DIGITAL INPUT indicator on? ● Is the coaxial lead or optical fiber cable connected properly? ● Is the optical fiber cable cut? ● Are you trying to record from a music tape or CD recorded with a copy inhibit signal?
The recording level cannot be adjusted when recording from the digital input.	● There is no need to adjust the recording level when recording from the digital input.
Clicking sounds are heard from the tape deck when a button is pressed.	● These sounds are heard when the tape or head protection function is operating. ● These sounds may also be heard when a blank portion on the tape is reached during fast forward or rewind. (These sounds are normal.)